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THE

DENTAL PRACTITIONER

A monthly journal for the Practitioner and his Staff

VOL. I, NO. 10

JUNE, 1951

**[Incorporating the Official Supplement of
The Dental Laboratories Section of the Surgical Instrument Manufacturers' Association]**

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THE DENTAL PRACTITIONER

A Monthly Journal for the Practitioner and his Staff
(Incorporating the Proceedings of the British Society of Periodontology)

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VOL. I, No. 10

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THE DENTAL PRACTITIONER

A Monthly Journal for the Practitioner and his Staff

Vol. I, No. 10



June, 1951

EDITORIAL

EXCELSIOR !

"The old order changeth, yielding place to new"

ONE of the objects of a professional journal is to present new ideas and new methods to its readers. But a journal should not be hastily skimmed through and then put down with the words "there's nothing new this month". For there is another object—that is to bring the old forward in the light of present-day knowledge. It is this combination of old and new that makes for a high standard of dentistry. The function of this journal is to help keep and maintain the standard of dentistry in this country by presenting to the reader through its various issues, items of interest and articles of value that will enable the practitioner to establish his work on a high plane. The need is always to go higher and higher; 'Excelsior' should be our motto in all things. It is not necessary merely to take the journal in order to keep abreast or to be *au courant* with modern discoveries. It is essential to revise the methods we use in everyday practice, and to assure ourselves that in the daily routine we do not slip

from the high altar of our work. We strive and will always strive to bring to our readers a varied selection of articles based on old ideas as well as new. For those who wish to look ahead there are the abstracts taken from journals all over the world, and readers who wish for further information on these journals are welcome to write to us. We cannot run the journal by ourselves, we depend on you to help us as well as reading the contents. Methods and treatments vary throughout the world but the basis of nearly all of them is the same. Much of what is new is old. "There is nothing new under the sun."

"To resist the tendency to confuse the familiar with the self-evident is one of the most necessary efforts the mind is called upon to make."—WILFRED TROTTER, 1932.

MAXILLARY PROTRUSION OPERATIVE CORRECTION OF AN UNUSUAL CASE

By RICHARD SPITZER, D.M.D.

THIS case of unusual maxillary protrusion and associated malocclusion is presented to demonstrate the value of a surgical approach to such problems. It underlines in addition the importance of articulation and occlusion during the period of growth and formation of the

more accentuated and was the cause of a severe psychological disturbance, as the patient was very much aware of her appearance. At times she suffered from depression.

CLINICAL EXAMINATION.—The clinical examination revealed the excessive expansion



Fig. 1.—Pre-operative appearance. Front view.

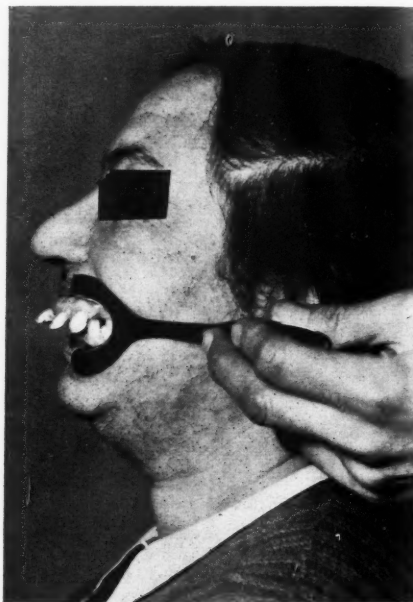


Fig. 2.—Pre-operative appearance. Note maxillary protrusion and occlusal condition.

jaw as an aetiological factor in the causation of facial deformities.

CASE REPORT

Miss Mary K., aged 47, was referred to me complaining of an enlargement of the maxillary alveolar process which had been present since her childhood and had become progressively marked ever since. Twenty years ago she sought advice, but no treatment was given. The condition had meanwhile become

and protrusion of the maxillary alveolus and the malposition and displacement of the teeth.

The following teeth were missing: $\frac{86 \ 3/4 \ 78}{8 \ 5 \ 56 \ 8}$

Through migration and forward movement the upper front teeth were placed in a fanlike manner with large spaces between them. They showed a labial inclination of about 45° from the normal position towards the horizontal plane. The supporting bony structure had attained a similar position. There was no

correct occlusal or central relationship. The lower incisors were in contact with the hard palate at a line about 3 to 4 mm. posterior to the maxillary ridge. The upper lip was

short and did not cover more than half the alveolar process. The gingiva, dark red and hypertrophic, had suffered from dehydration and mouth-breathing. Closure of the mouth



Fig. 3.—Plaster model, pre-operative condition. Note malformation of the dental arch. The line shows the limit up to which sectioning of the alveolar process had to be performed.

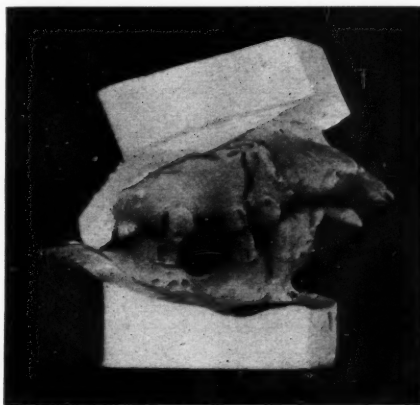


Fig. 4.—Plaster models, pre-operative occlusal condition.



Fig. 5.—Pre-operative radiographic appearance.



Fig. 6.—Post-operative appearance. Front view.

was not possible in the rest position without contraction of the orbicularis oris. (Figs. 1-4).



Fig. 7.—Post-operative appearance. Lateral view.

The muscles of the lip, cheek, and, not least, the tongue, had gradually increased the effects of the malocclusion.

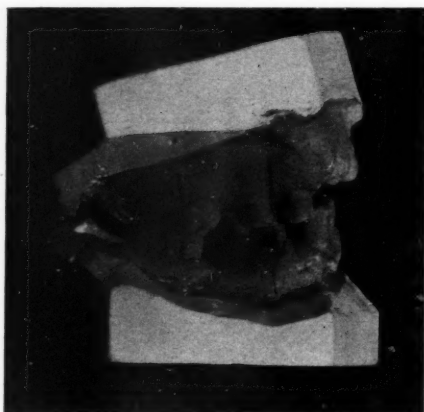


Fig. 9.—Plaster models, post-operative condition.

RADIOLOGICAL APPEARANCE.—The radiological examination showed normal trabeculation

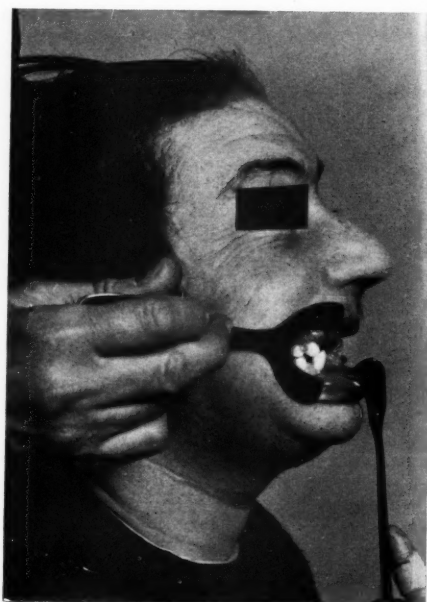


Fig. 8.—Post-operative appearance, side view, occlusal condition.

and regular size and development of the antra. The side view showed the degree of the maxillary and mandibular maldevelopment (Fig. 5). There was no radiological evidence of any osseous changes.

The patient was further submitted to serological and chemical tests. The blood-picture was normal, but there was a highly increased sedimentation rate—60 mm. after one hour and 85 mm. after two hours. The blood-calcium was slightly raised. On the basis of these findings the patient has now been referred for medical treatment.

TREATMENT.—The patient's appearance and articulation suggested that only surgical treatment could be adopted.

The operation was performed under general anaesthesia.

Following the general pattern of such cases, a vertical incision was made just anterior to the left bicuspid and between the right

bicuspid and carried down from the buccal sulcus towards the palatal aspect for about 2 cm. Another incision along the alveolar ridge severed the interdental papillæ.

It was then possible to reflect the mucoperiosteal flap on both aspects, exposing the whole of the alveolar process and its deformity, and at the same time to preserve the nasopalatine nerve. The left canine and the four incisors were extracted. Removal of the anterior segment of the maxillary process was performed by reducing the bone, starting anteriorly in the apical region of the sockets and following the longitudinal direction downwards and backwards to a line which intersected the papilla palatina. This was followed up by the extraction of the four lower incisors and by removing the protruding mandibular alveolus to such an extent as to

attain a satisfactory base for a prosthetic restoration.

Healing and after-effects were normal, and the patient was able to wear a temporary denture shortly afterwards (*Figs. 6-9*).

SUMMARY

A case of gross maxillary prognathism and associated malocclusion requiring surgical treatment has been described.

The correction of the facial deformity and the reconstruction of the jaws and bite relieved the patient of her unsightly appearance and established good articulation. The beneficial psychological effect was very marked.

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METALS UNDER THE MICROSCOPE

By ERNEST A. SCHOOLDEN

Part-time Lecturer in Dental Technology, Applied Science Department, Municipal Technical School, Newton Heath, Manchester

A WORLD of interesting as well as practical data is available to us in the field of metallography once we are equipped with the necessary knowledge. Practice, of course, is also needed in the art of polishing, etching, examining and drawing the details of the internal structure of metals.

It is not easy to peer down a metallurgical microscope with one eye, whilst focusing with the other upon the drawing paper. Here, a diagram of what appears in the instrument has to be copied in minute detail. Students of dental metallurgy in the Dental Technician's Course of the City & Guilds of London Institute are expected to be able to do this with ease, and tests are often included in the examination papers, where the drawing has to be done from memory.

A sound knowledge of both macroscopic (naked eye) and microscopic examination of metallic specimens is expected and the schools

have to provide adequate facilities and apparatus for this purpose.

The metallurgical microscope differs from the more widely used pathological type in that an electric lamp is enclosed within the barrel. Its light is reflected back to the eyepiece from the specimen which has to be specially polished. *Fig. 1* shows the microscope and *Fig. 2* the polishing machine used by the final year students at Newton Heath Technical School, Manchester.

One may ask "Why a special polishing machine?" It will be seen from the photograph that this machine consists of a horizontally driven flat disk. This disk can be fitted with various grades of paper or cloth carrying abrasive substances, and is capable of polishing a specimen perfectly flat. This is necessary if distortion of the image is to be prevented.

Final polishing is achieved by the use of moist chamois leather. Water is delivered to

the polishing surface from a container mounted above the disk by means of a gravity fed drip tube. Rotation of the circular plate is accomplished by means of a belt drive from a

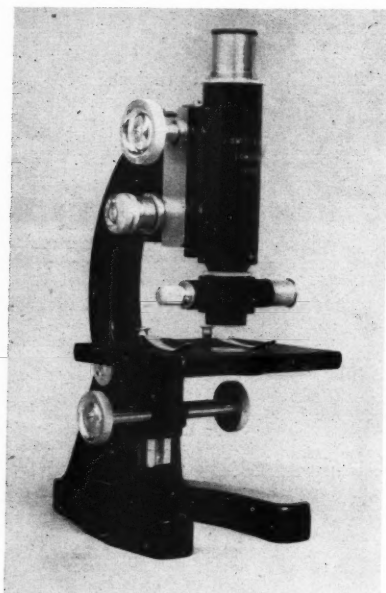


Fig. 1.—The microscope.

fractional horse power motor at normal mains voltage.

The softer metals, such as lead, and low-fusing eutectics, are unsuited to this method. They have to be polished by hand, the reason being that the kinetic energy of the disk surface is changed to heat energy by friction, where it is adjacent to that of the specimen. What is generally referred to as the Beilby layer of amorphous material is formed. The heat so generated causes a redistribution of the surface molecules and the crystalline structure is therefore destroyed.

Sampling and Polishing.—Because of segregation of their constituent metals, or for other reasons, all alloys may not be completely homogeneous throughout their bulk. In these cases more than one sample should be taken. In any case the sample should be effectually

representative of the main bulk of the material. It is best sawn from the centre of a given piece by a hacksaw, and having approximately the following dimensions, $\frac{1}{2}$ to $\frac{3}{4}$ in. in diameter by $\frac{1}{4}$ or $\frac{1}{2}$ in. thick. Opposite faces should be smooth and parallel, that is, perpendicular to the long axis. Sharp edges should be trimmed with a file and the file marks afterwards obliterated by rubbing lightly across them with emery paper, keeping the scratch marks parallel.

The specimen should now be turned through an angle of 90° and the rubbing continued until the last scratch has disappeared. This procedure is repeated using emery of grades 0 to 000, followed by a final polishing on the machine.

A fine polishing medium such as Jeweller's Rouge can be used, or Alumina, Al_2O_3 . Chromic oxide, Cr_2O_3 , is useful for the stainless steel alloys.

After polishing, the metal is well washed, first in warm soapy water, followed by rinsing



Fig. 2.—The polishing machine.

in cold water and then alcohol or trichlorethylene to remove final traces of grease and to prevent oxidation of the mirror-like surface.

Etching and Mounting.—The next step is etching and is a somewhat tricky operation. An acid-proof container, such as a glass or

porcelain dish, of rectangular shape is needed. It must be sufficiently deep to allow the etchant to cover fully the polished surface.

The etchant has the effect of attacking some constituents of the alloy more than others, revealing the internal structure and orientation of the grains. Rocking of the dish ensures that an even flow of solution is kept in close contact. The actual time of etching depends on the kind of metal and the corrosive power of the reagent. It may vary from about ten seconds to five minutes. Only experience can tell when sufficient metal has been removed,

carried out in hot air. In mounting, an accurately cut brass ring is placed on a glass plate, the specimen placed inside, etched surface downwards. A glass slide carrying a mound of modelling clay is pressed down upon the ring until the glass contacts it. This ensures level mounting which is very desirable. Tiny specimens such as wire, etc., may be embedded in acrylic resin or low fusing metal.

Examination.—The ring is now placed on the stage of the microscope which has a connexion plugged into the mains. If polishing and etching have been expertly carried out, a most



Fig. 3.—Shows the appearance of a specimen of steel in the soft state.



Fig. 4.—Shows the effect after quenching a steel of higher carbon content.

and, until this has been gained, it is better to err on the light side, as, if etched too far, it will be necessary to repolish and etch again.

Although gold is soluble in one single acid (selenic acid), pure aqua regia is usually used as the etchant for gold and gold-rich alloys, silver, and platinum. Other solutions are potassium cyanide and iodine in alcohol.

Suitable etchants for steels are dilute nitric acid and an alcoholic solution of picric acid. For copper-zinc alloys such as brass, chromic acid or copper ammonium chloride is useful. Whilst most metals require the corrosive powers of an acid, zinc and aluminium, being amphoteric substances, can be etched by a base such as sodium hydroxide.

A pair of tongs is required to remove the piece from the bath, when it is washed under running water followed by alcohol. Drying is

interesting picture of the interior of the substance can be seen when brought into correct focus. (Figs. 3, 4.)

As with radiography, interpretation of the picture is of paramount importance, and much study is needed in order to arrive at a true diagnosis. Again, as in photography, "grain size" is an important consideration in metals, particularly gold alloys. Their mechanical properties, such as tensile strength, ductility, malleability, density, etc., depend somewhat on refinement of this quality.

The varying orientation of the grains is revealed by the changing degrees of brightness, being most noticeable in the dendritic, or fern-like appearance of pure metals. This picture is not apparent in metals which have been annealed for some time, due to diffusion during heating.

Thus the past history of a given metal may be deduced. Cast ingots, for example, have a coarse crystalline structure. On the other hand, hot working breaks up the larger grains, whilst continued heat treatment leads to recrystallization or grain growth, which is a function of both time and temperature.

In stainless steel, the disturbing factor of weld decay or grain corrosion at the boundaries can be viewed and the necessary corrections noted regarding time of weld and electrode voltage.

The Value of Microscopy.—Micro-examination also serves as a guide to a particular type

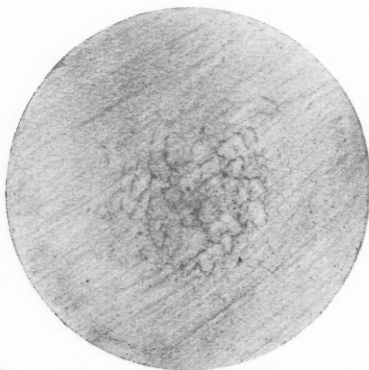


Fig. 5.—Shows new crystal formation in a wire, due to excessive heat in soldering.

of steel. In the jagged structure of fine interlacing needles of the martensitic varieties, we can expect increased hardness and lack of malleability due to the precipitation of the sharp cornered grains of cementite (iron carbide), which have a tendency to "key" the slip planes.

If the appearance of the grain is structureless as in pure metals or alloys of the solid solution type, the steel may be austenitic. If in addition we have a refined grain size, the metal will be most suitable for the swaging of wrought plates, but hardening rapidly in the cold.

Babbitt's and type metal as used for dies, etc., and other tin-antimony solid solutions are easily recognized by the geometrical patterns of their cubic crystals.

In castings, the inclusion of oxide particles which have been partially removed in polishing, can be seen as pits, whilst the "occlusion" or adsorption of gas is shown by the presence of cavities. Shrinkage porosity can be detected and serve as a guide to correct spruing, or the necessity of a larger reservoir. Over-heating of a metal in heat treatment is denoted by fissures at the grain boundaries.

Quite an important field in laboratory techniques is that of soldering. Unless carried out expertly, it is better not carried out at all. Microscopic examination demonstrates this all too clearly.

Fig. 5 shows the structure of a wire subjected to a soldering operation. The original long fibre-like structure which is typical of a ductile material after being drawn into wire, is showing signs of new crystal formation. This recrystallization is due to excessive heat applied to the metal in order to get the solder to flow. The result is a change of mechanical properties. Both tensile strength and ductility are affected adversely.

Again, if so much heat is applied that both solder and metal to be joined are brought to a state of solution, a new alloy is likely to be formed, and properties which are apparent only in the wrought condition will have been lost to those of a cast ingot.

Any deviation from the cardinal rules of soldering, i.e., control of heat, perfect cleaning, close apposition of the parts, and the effective dissolution and reduction of oxide by fluxing, can be traced.

In perfect soldering, the physical structure of the joined metals remains unaltered, so in order to satisfy himself of the excellency of his technique the student must place the metals under the microscope.

I am indebted to Mr. R. L. Andrew for the photographs, Mr. C. Roundhill for permission to photograph, and Mr. S. W. Jackson for the sketches.

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VISUAL EDUCATION IN DENTISTRY

(Continued from p. 276)

By HENRY MANDIWALL, M.B., B.S., L.D.S., F.R.P.S.

LAST month we studied three of the five visual aids in education, namely, (A) Clinical materials, (B) Museum materials, (C) Motion pictures. The remaining two aids are (D) Still pictures, and (E) Graphic materials.

D. STILL PICTURES

Still pictures are available in (1) the stereograph, (2) the slides, (3) the film strip, and (4) the photograph and its different varieties, and all of these can be in colour.

1. Stereoscopic Picture.—These are pictures which produce the impression of the third dimension—depth. Although it is an artificial creation of the third dimension effect—the stereograph gives us the nearest pictorial approach to the object itself in its natural setting.

What happens is that the observer sees one picture with the left eye and another with the right eye. The right eye sees more of the right side of the page and the left eye sees more of the left side of the page. The sense organs put the two pictures together and we see the whole object, thus giving an impression of solidity and relief.

Stereographs are not intended for group teaching. They are decidedly individualistic and should be so used.

2. Lantern Slides.—The lantern slide has become one of the most useful of visual aids and is being adapted to new purposes from year to year.

Advantages.—

a. Offers the most complete array of opportunities for the use of projected still pictures.

b. Offers the maximum of brilliance in the projected image.

c. The image remains absolutely steady.

d. The image can be left on the screen for any desired length of time.

e. It may be used in a room which cannot be darkened completely.

f. It may be made from almost any type of drawing or photographic negative.

g. It will attract and hold the attention of even the most inattentive in the classroom.

Purposes served by Slides.—

a. Used in consideration of any topic to stimulate interest, or to introduce new matter.

b. Used during discussion or study periods to clinch essential facts.

c. As an effective review after discussion on a particular topic.

d. To develop a background for the material to follow—e.g., in the presentation of other visual aids such as motion pictures.

e. Individual study after a lecture.

f. Stimulates reflective thinking.

Limitations.—

a. Heavy, and requires considerable room for transportation and storage.

b. Easily breakable.

c. Costs more, as compared to 2×2 slides, than film strip.

A very great amount of care should be taken by the teachers not to analyse pictures to such an extent that the meaning is destroyed. The teacher's part in helping the student to interpret a slide is that of guide.

One of the chief features to be emphasized in connexion with the use of slides or of the majority of other visual aids is that the materials, slides or films, and equipment, projectors, etc., should be readily accessible, otherwise it is quite probable that teachers will become discouraged and will fail to make proper use of the desired materials.

There are certain standards which should be applied to the selection of all types of projection materials, particularly those which are to be used as part of a teaching plan.

a. No visual material should be presented which is incorrect or unrelated in any respect. The impressions made by the projected slides are so vivid and lasting that it is almost criminal to use a slide which is not absolutely true in its portrayal of any situation.

b. The photographic quality must be of the highest order.

c. The slide should be attractive. If it contains too much material, not enough, or is

poorly arranged, or if it is not clear in certain parts of the picture, the pupils will lose interest in it.

d. The slide must have a centre of interest, i.e., there should be a concentration of attention.

Having made a perfect slide for projection, it will be of no use if care is not taken to project such a slide through a good and efficient projector. The following points should be taken into consideration when selecting a still projector:—

- a. Smooth working.
- b. Efficient illumination.
- c. Efficient optical system.
- d. Easy cleaning facilities.
- e. Lenses of various foci.

Teachers at times make the mistake of using motion pictures when still pictures would be better. There is nothing that can replace motion pictures when it is necessary to show motion, or when continuity of motion is essential. By showing motion pictures of an inanimate object, the feeling of stability of such an object is lost. The only justification for including a few shots of still objects in a movie film would be to avoid any break of continuity in a film, or where a still projector is not available.

3. Film Strips.—The film strip is a roll of film carrying positive images which are projected on a screen in the same way as the glass lantern slides. Advantages over slides are:—

- a. Convenience, it is smaller, and can therefore be wound on a small spool.
- b. Much less storage space is required.
- c. Unbreakable.
- d. Cheap.
- e. Direct colour.

Limitations.—Duplication of the original film is restricted; a single picture cannot be selected from a strip for inclusion in another lecture; correct order of pictures must be predetermined and can not be altered.

4. Photographs and Prints.—The photograph has been and remains one of the most readily accessible, economical, and effective of visual aids to instruction. It is abundantly available and extremely useful. Pictures may be applied to teaching situations by teachers or pupils. Only such pictures should be used which

pertain to the subject and only enough pictures to illustrate the point clearly, otherwise they detract from the topic under consideration and too many pictures introduced into one lesson are likely to confuse the minds of pupils. Pupils should be given plenty of time to study pictures as some pupils comprehend much more readily than others. Pictures have been found to be highly effective when used to illustrate notes or as a part of a scrap-book for any given study.

Forms of Projection for Still Pictures.—The architectural principle of form following function holds true in education. In each kind of aid used, the means and methods should be based on the particular purpose involved. Suitable and efficient projectors, both for still and moving pictures are very necessary, if justice is to be done to the excellent materials that are to be shown.

E. GRAPHIC MATERIALS

The most abstract of all visual aids are the graphic materials in two-dimensional representations. The graphic materials consist of illustrations, posters, charts, diagrams, etc. These, like all other visual aids, should be of the highest order, to the point, and described by appropriate captions.

1. Posters.—A poster is a composition of bold forms and colours designed to catch immediately the eye of the passer-by, hold his attention, and impress on him a story, fact, idea, or image that he will remember. Its force lies in its simplicity and directness, its dynamic line and colour.

2. Graphs.—The purpose of the graph is to present numerical data through the visual avenue by means of simple and readable arrangements having great attention value. Pictorial statistics are charts showing quantity facts by means of pictorial symbols. We constantly think of statistics as being something dry and boring. This feeling has been created by the use of highly abstract charts and through dealing with numbers which have little or no reality in common experience. Numbers have a meaning only if they are brought into the radius of such experience. The purpose of pictorial statistics therefore is

to facilitate the grasp of quantity relations, and to make them quickly understood and easily remembered.

3. Diagrams.—The most effective use of a diagram comes after the pupil has been shown the original fact by any one of the methods already discussed. The diagram becomes meaningful when based on previous foundation. To make the diagram real, more concrete aids should be introduced at various points. Accurate proportion and truth in scale are necessary for proper understanding and learning. Clear drawings, elimination of non-essentials, and ample spacing between parts and lines will make for visual effectiveness. One should not deprive oneself of the use of mechanical aids such as straight edges, compasses, rules, stencils, etc. Lettering or any other marks of identification should be legible.

4. The Blackboard.—It is fundamentally a means of graphic reproduction. It is essential that blackboard work be (a) related to information and instruction; (b) definite, accurate, purposeful, and positive; and (c) clearly visible to students.

5. Visual Text-books.—This paper would not be complete without a few words on this subject. The reading and study of any printed page is a "visual" *modus operandi*. Beyond the enrichment of a text through good layout and design is the possibility of that kind of text which tells its story chiefly or in great part by use of photographs, illustrations, graphic means, and other devices. There has been an emphatic surge to this type of book in recent years. The authors of such books must bear in mind the number of photographs and their quality, significance, truth, desirability, type, size, simplicity, and directness, as otherwise the photographic element may mar the excellent text quality; no amount of good visual materials will improve the poor text in a book.

GENERAL PRINCIPLES

One can now outline four general principles with respect to the use of visual aids in the teaching and learning of our profession—if these are not understood, they account for many unpedagogical uses of visual aids, and

explain why the latter have yet to achieve their real value in teaching.

1. The visual aids to be used must be made to seem real to the learner. In other words, visual aids are effective in instruction to the degree that they approach reality, i.e., the real thing can be perceived by the individual. Rather, reality is subjective. The experience must be real to the student. A good illustration of subjective reality can be found in the motion picture. As the individual projects his experience into the situation and action of a motion picture on the screen, the situation is real to him. Objectively, however, the situation is merely the projection on a white screen of a series of pictures, with or without sound effects. A motion picture which lacks this quality of reality, lacks instructional value.

2. The relative effectiveness of the various visual aids is in direct ratio to the student's stage of learning and development.

On the concrete level of psychological experience, the actual objects in their natural setting are of greatest value. The clinical teaching, in this respect, proves of paramount importance. It gives the student the actual experience in the total situation.

3. The value of visual aids is dependent upon the intellectual maturity of the learner. Flexibility of mind determines in part the ability to see relationships and to form generalizations. The amount of concrete experience and its relative degrees of concreteness vary widely in use between the "bright" and the "dull" pupil. It follows then that the amount and concreteness of the visual aid necessary to the development of any given level of abstraction is greater where the intellectual maturity of the learner is lower and vice versa. It is in this important aspect of development that school instruction has failed to provide for individual differences. These are generally quantitative, whereas they must also be qualitative. Therefore materials and methods of instruction must be provided in accordance with the psychological differences of the students.

4. The value of visual aids is a function of the objectives of instruction in the particular teaching situation—as for example, while discussing the effect of pyorrhœa on the general

system, it is no use showing at the same time a film on gingivectomy for the possible cure of the disease.

Furthermore, the extent to which verbal instruction should accompany the use of visual aids depends upon the extent to which generalization is desirable. It is a frequent and grave mistake on the part of many teachers who make wide use of visual aids to consider that mere visual experience without any language experience is adequate. Such thinking neglects the fundamental principle that all thinking is done in terms of language. Actual generalization is and must be taught on the verbal level. If teachers will first determine the objective of instruction they can then decide whether visual aids will contribute towards the attainment of this objective and which particular visual aid lends itself best towards this end.

It is a fatal mistake to believe that all teachers will make use of the available aids. The effective use of visual aids requires planning, making ready the materials, and knowing the precise moment, the proper place, and the most effective way to introduce them. A vital, realistic, stimulating educational programme not only requires the necessary visual aids but the proper use of these materials in instructional and learning situations. Both require the same check, the same inspiring leadership, as do art, music, health, and other programmes.

Excellence in the quality of instruction needs the skill, wise counsel, and constructive guidance of trained supervisors. In my opinion, a specialist, if he may so be called, in this branch of dental education, with the help of visual means, should be one who is familiar with the techniques of visual aids, who has been a successful teacher, and who has a co-operatively helpful attitude towards his fellow-teachers. Such a qualified teacher of visual instruction, through his knowledge of materials, of effective administration, and of best methods of using materials, can in a short time make school authorities, teachers, and patrons conscious of the value of superior tools. He will establish such co-operative relationship that his supervision will be one of inspiring

helpful leadership which is certain to result in an improved quality of instruction.

If a central body for visual education were to be formed, with a director in charge, he would need committees of specialists to approve of the text included in various visual materials under his control. If the committee by its majority (as a unanimous agreement will be difficult) should decide that both the quality and quantity included is correct, then the particular visual material is ready for distribution to various schools and institutions.

Dental teaching films are only beginning to demonstrate their value. Colour and sound have vastly increased their effectiveness and the animated diagram is another fairly new technique that is being employed to excellent advantage. Planning is the element that has been most lacking in their preparation, but with the impetus of dental education needs we may expect to see better and more up-to-date films in the very near future.

Naturally films prepared for the lay public should be of a distinctly different character from those prepared for the use of the dental profession.

Above all, the production of a dental teaching film should be placed in the hands of a photographer with competent medical and dental background and a knowledge of what can be translated into film language. Such a person must have a thorough understanding of the ethics of the profession and the strength of character to say "No" to the many requests for the introduction of unnecessary or unsuitable material.

Until all dental schools can afford a well-equipped photographic section and a teacher trained to use visual aids in his classroom, this difficulty can be overcome by establishing a central body, whence such facilities can emanate. Expense, as in any other situation, must be taken into account, but I am sure that after reading so patiently the need and value of this kind of teaching, no one will begrudge the spending of money in this direction, for every penny spent will be well spent, and results, with certainty, easily achieved.

If a body such as The British Council for Dental Education be organized, there are four

important functions it will have to perform: (1) To survey the status of visual material in education in the British Isles. (2) To review development of the same from time to time. (3) To summarize and keep its work up to date. (4) To outline a series of proposed activities.

Visual education is thus not merely a matter of persuading teachers to use mechanical contrivances in the classroom. Behind the teacher's work is a whole set of organizational problems. Moreover, it would be wrong for teachers to become mechanical engineers before carefully studying the non-mechanical forms of visual education. The selective principle in all picture making is the underlying logic of visual symbolism. At the root of the whole problem of visual supply are the twin processes of analysis and creation. Visual materials cannot be manufactured to order. They depend on a contribution of educational, artistic, and technical genius. Thus the discovery and encouragement of talent is the most vital of all problems.

There is no doubt that the post-war requirements in scientific education are being discussed by everyone to-day, for on what is decided to-morrow will rest the foundation of future education.

Science and scientific knowledge are advancing to-day at such a pace that it is imperative for younger men to have chances of post-graduate study and refresher courses, so that they may keep pace with progress in their own particular science, and so benefit from modern developments, and be capable of applying these developments to their own particular profession and its problems.

Without education along modern lines and including modern concepts we cannot apply this new knowledge.

A quality most necessary to promote and teach visual methods for professional instruction is enthusiasm. It is necessary to believe fully in the value of such work. Enthusiasm can be compared to an infectious disease which leaves its stamp on everything that comes in contact with it.

Whatever the subject, the teacher should ask himself at least the following four questions,

before he thinks of presenting his instruction by means of visual aids:—

1. What do I want to show?
2. How can this be done by photographs?
3. What photographs are necessary to do the job?
4. Where am I likely to find my material and subjects?

Visual material has its value, wherever knowledge is to be imparted.

Learning by looking is a modern symptom, and is, if guarded against lapsing into mere superficiality, a healthy and a fruitful one.

In a scientific body like the Royal Society of Medicine, there is a solution to the problem of making the dental profession picture-conscious. If the odontological section would set aside one special meeting per year to view and discuss all visual matter produced by or for the profession they would render an inestimable service to the dental vocation. If such a step were taken many men would rally round, to uphold, in the eyes of the world, the status of dentistry to a level where every one of us will be proud to see it aspire.

It is interesting to quote here a few sentences from the interim report of the Interdepartmental Committee on Dentistry: "Dental health education should deal with questions of diet and dental hygiene as well as stressing the need for regular inspection and treatment"; it recommends that "Dental health education should be one of the essential parts of the advice given at maternity and child welfare clinics", and that "Dental hygiene should form part of school routine"; and it also recommends "Valuable assistance can be given in dental health education by a central organization".

While concurring warmly with all these suggestions, it is necessary to emphasize once again how effectively and speedily these suggestions could be carried out with the help of properly organized and executed visual aids such as have been described above. Scope is unlimited if only the powers that be can realize the tremendous value of these visual media. It is hoped that the time is not far distant when they will assume their right and logical place in the dental teaching world.

DENTAL MECHANICS AND MATERIALS

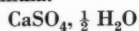
By J. SEEAR, L.D.S. R.C.S.

II. IMPRESSION MATERIALS

1. "PLASTER"

PLASTER-OF-PARIS

Chemical Formula.—



The hemi-hydrate of calcium sulphate.

Thus CaSO_4 is calcium sulphate.

H_2O is water.

Preparation.—From the dihydrate of calcium sulphate, $\text{CaSO}_4, 2 \text{H}_2\text{O}$, commonly known as gypsum or rock alabaster,

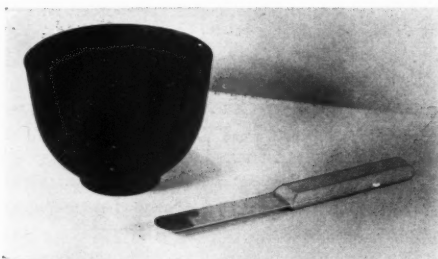


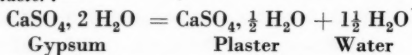
Fig. 1.—Plaster bowl and spatula.

which in its natural state looks very similar to marble, but is readily differentiated as it is much softer and can be easily scratched. It is found in large amounts near Paris, Aix en Provence, and in Spain.

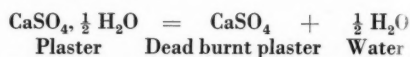
The method of preparation is by heating the gypsum to about 150°C . to remove the water of crystallization, and then grinding the resultant matter to a very fine powder.

Note: Water of crystallization is that water which combines with the actual substance, forming crystals of the substance.

The chemical equation of the preparation of plaster:—



If heated further the remaining water is driven off and the resulting substance is known as dead burnt plaster, thus:—



Plaster prepared in this way contains many impurities, but in the plaster required for dental use these impurities are removed.



Fig. 2.—Mechanical plaster mixer.

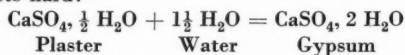
Thus we commence with the

Dihydrate (Gypsum), i.e., $\text{CaSO}_4, 2 \text{H}_2\text{O}$, we heat to remove the water of crystallization and we get the

Hemihydrate (Plaster), i.e., $\text{CaSO}_4, \frac{1}{2} \text{H}_2\text{O}$. If we heat further we have the

Anhydrite (Burnt Plaster), i.e., CaSO_4 .

In Use.—The equivalent amount of water lost from the gypsum during the preparation of plaster is added to the plaster, which then sets hard:—



From the above statement and the chemical equation it would seem that very accurate ratios of plaster to water should be used equivalent to those shown by the equation.

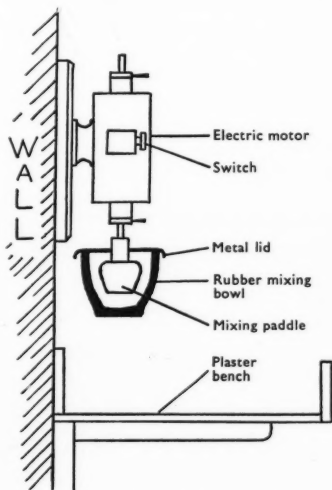


Fig. 3.—A mechanical mixer made from laboratory spares.

In practice, however, this is not so, for such a ratio would cause the mixture of plaster and water to be so thick as to be unworkable and it would set hard very rapidly indeed.

More water, therefore, is used and the amount in excess of that chemically required is ultimately lost by evaporation from the mass. The complete evaporation of this excess water normally takes about 72 hours, and it is then that the set mass is at its maximum strength which is in the region of 280 lb./sq. in.

During setting: The mass expands approximately $\frac{1}{500}$ of its volume.

The temperature of the mass rises to a noticeable extent and the warmth produced can be felt by the hand. This temperature rise varies with the volume of the mass and with different ratios of plaster to water in the mix.

Mixing Plaster.—

Instruments.—Plaster bowl, usually of rubber, and a spatula which normally has a metal blade and wooden handle. (Fig. 1.)

Mechanical mixer: This is comprised of a rubber plaster bowl, having a metal lid, from the centre of which comes a "paddle" which is geared to the handle (Fig. 2), enabling a very even, creamy mix to be readily obtained. An improvised mechanical mixer, as suggested in "Illustrated Hints" in the DENTAL PRACTITIONER, Vol. I, No. 6, is shown in Fig. 3.

Hand Mixing.—Fill bowl one-third full of water and then sift in plaster very slowly

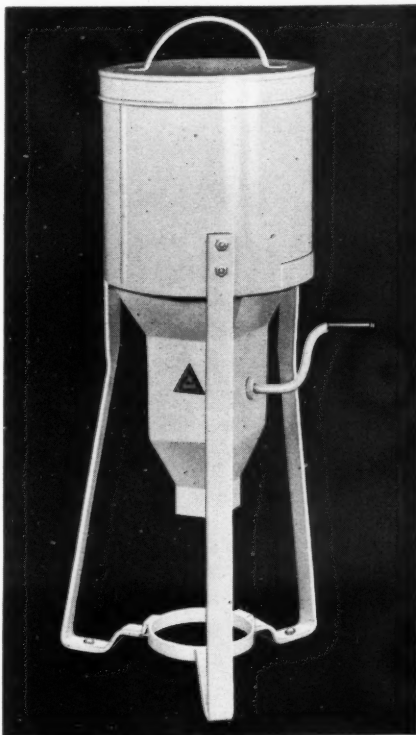


Fig. 4.—The Cottrell plaster dispenser which holds 14 lb. of plaster, keeping it fresh and dry. The handle works a spring steel agitator which sifts the plaster through a fine mesh screen, thus eliminating all lumps.

until there is just a slight excess of water. Drain off this excess and spatulate, rotating the bowl slowly at the same time. See that no lumps are present and that the mix is of an even, creamy consistency. Mixing should not

be continued beyond this stage as over spatulation causes extra expansion of the final mass during setting.

More water in the mix would make it thinner.

Less water in the mix would make it thicker.

A thin mix: Sets slowly, expands less, and is weaker and softer when set.

A thick mix: Sets more rapidly, expands more, and is stronger and harder.

The setting of plaster, being a chemical reaction, is speeded up by heat, as are the majority of chemical reactions. Thus if *warm water* is used the setting is more rapid. *Hot*

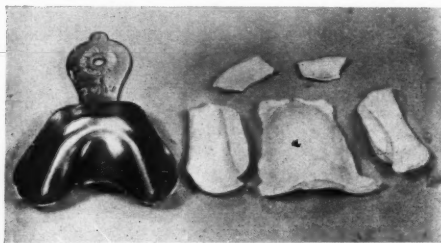


Fig. 5.—Full upper plaster impression and tray as removed from the mouth.

water should *not* be used, however, as it upsets the reaction completely.

The Plaster Mix.—The general properties of a normal mix of plaster and water are:—

1. It sets in about $4\frac{1}{2}$ minutes.
2. It expands on setting to approximately $\frac{1}{300}$ of its original volume.
3. It gets warmer during setting.
4. When set it is brittle, and hard on the surface.

To Vary the Properties.—

A. To speed setting time:—

1. Use less water (stiffer mix).
2. Use warm water (not above 40° C.).
3. Add common salt (chemically, sodium chloride, NaCl), 5 gr. to 40 c.c. of water.

Note: An excess of salt in the mix will reverse this action and *lengthen* the setting time.

4. Add potassium sulphate (K_2SO_4). This also reduces the expansion.

5. Add alum.

6. Use very fine plaster. This, however, does not give such a hard set.

Note: Both salt and alum slow down the evaporation of the excess water from the mix and therefore cause the ultimate mass to be weak and soft.

B. To retard the setting time:—

1. Use cold water.
2. Use more water (thinner mix).
3. Add borax. (Sodium tetraborate, $Na_2B_4O_7 \cdot 10H_2O$.)
4. Use coarse plaster (makes final mass very hard).

C. To reduce expansion during setting:—

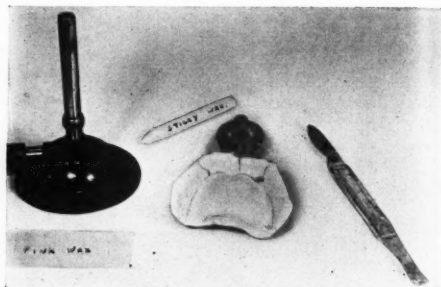


Fig. 6.—Full upper impression fitted back into tray; and "apparatus" used. *Note:* All joints have been clearly marked with pencil to show alinement of pieces.

Add potassium sulphate (K_2SO_4) to the water.

However, as we have seen, this is also an accelerator and, in fact, it so speeds the setting that borax has to be added also to reduce the speed sufficiently to give a reasonable "working time". From this it can be seen that no one chemical can be added to the water to give an ideal solution to mix with plaster for impression purposes.

Plaster for Impressions.—Should:—

1. Set in a reasonable time (2-4 min.).
2. Preferably neither expand nor contract.
3. Set fairly hard and be brittle when set.
4. Be a different colour from normal plaster (for reasons to be explained later).
5. Be neither too hot nor too cold for use in the mouth.
6. Be harmless to the oral tissues.
7. Be easily prepared, mixed, and used.

Therefore, to render plaster suitable for impressions a so-called *anti-expansion solution* is used, one of which is made up thus:—

Potassium sulphate	4.0	per cent
Borax	0.4	“ “
Alizarin S	0.04	“ “
Water	95.56	“ “

This particular formula is known as *Gibson's A.E.8.*

Note: Alizarin S is merely a colouring agent and it comes in nature from the madder root.

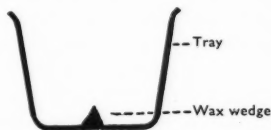


Fig. 7.—End-on view of tray. To show shape of wax wedge.

It is produced commercially, however, as a by-product from coal tar. It is a very powerful red dye and therefore only a minute amount is needed to colour the solution.

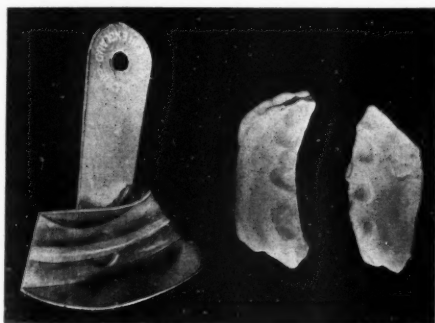


Fig. 9.—Sectional tray with two halves of a "split plaster" impression after removal from the mouth.

Soluble Plaster.—This is the term used for a mixture of plaster and starch, and it is used with water or an A.E. solution in the normal manner.

The idea of adding starch is because this substance, as is well known, will swell considerably and rapidly in hot water. Thus, if a piece of set "soluble plaster" is placed in hot water it swells and disintegrates. This fact

can be used to advantage and the reason will be explained later.

The use of soluble plaster is usually confined to those cases where for various reasons only a very thin layer of impression material is needed.



Fig. 8.—Top view of sectional tray, showing position of wedge.

Plaster impressions are normally taken when there are no teeth standing, i.e., for edentulous jaws and also for small sectional impressions. As plaster is not elastic when set, but

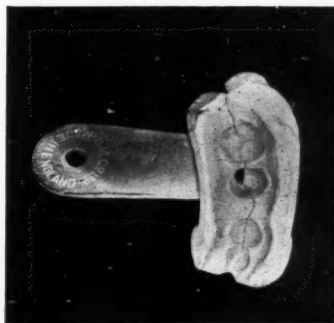


Fig. 10.—"Split plaster" impression sections reunited and fitted back into tray.

brittle, it will frequently be found that pieces fracture off from the bulk of the impression during its removal from the mouth and the technician is liable to find himself faced with a jig-saw puzzle of anything up to a dozen pieces, all of which must be fixed back very accurately into position (Fig. 5).

The best method of putting the puzzle together is carefully to brush each fractured

surface to remove all loose particles, to smear a thin layer of fish glue (e.g., Durofix) on each surface, and to position each part until the many pieces form the one impression. Check that all joints are accurate and then, if necessary, support the joints by adding wax on the outside (Fig. 6).

The small sectional impressions are usually taken so as to be easily split into two roughly equal halves and are normally referred to as a "split plaster impression". Such an impression is invariably taken in an area where teeth are standing, and the method is as follows:—

1. Choose a suitable sectional tray.
2. Add a wedge-shaped strip of wax along the long axis of the tray (Figs. 7, 8).
3. Thoroughly grease the tray.

4. Mix plaster, fill tray, insert into mouth.

5. When set, remove tray, which will be empty.

6. Impression, still over teeth, will have a wedge-shaped groove along it, so cut into this groove with a sharp knife, then lever carefully along the length of the impression to cause the two halves to separate (Fig. 9).

7. Position and seal the two halves back into the tray (Fig. 10).

Plaster "Wash".—This is a term used when an impression is taken using merely a "lining" of plaster, such as when first of all a quick "compo" impression, say, is taken; then a small amount of plaster mix put in this and the whole reinserted into the mouth until the plaster has set, and then removed.

PARLIAMENTARY NEWS

Questions and Answers

CHARGES TO FOREIGN VISITORS

Capt. R. E. D. Ryder (C., Merton and Morden) asked the Minister of Health whether, in view of the proposed charges that are now to be made on dentures and glasses, he will cease free medical treatment to those visitors from foreign countries with which we have still no reciprocal agreement.

Mr. Marquand: No, sir.

Capt. Ryder: Surely if these charges are going to be made it is only reasonable to start trying to effect some economy in respect of foreigners rather than charge our own people?

Mr. Marquand: Charges will of course apply to foreigners as well as anybody else.

Mr. E. H. Keeling (C., Twickenham): What is the point of taking powers under the 1949 Act to charge visitors if they are not going to be used?

Mr. Marquand: Because the Home Secretary (Mr. Chuter Ede) since then has been able by ways and means to restrict foreigners coming to this country deliberately to seek treatment.

Asked if any estimate could be given of the total yearly cost of visitors' charges, Mr. Marquand replied that it was negligible.

Mrs. Jean Mann (Lab., Coatbridge and Airdrie): As it has been intimated there are a million visitors coming to Britain for the Festival of Britain, has he estimated a possible increase in the health budget?

Mr. Marquand: The figure would still be negligible. I hope our cousins coming from the Dominions and Colonies overseas will receive a warm welcome in every direction.

When it was suggested by a Member that Britain would be more likely to obtain reciprocal facilities by making a charge now, the Minister answered: If Members can discover a way of finding out whether a person requiring treatment is a foreigner without imposing vexatious questions on British nationals and without imposing extra clerical work on doctors, I would be glad to hear of it. (Th., April 26.)

FOREIGN DENTISTS NOW RESIDING IN BRITAIN

Mr. S. S. Awbery (Lab., Bristol, Central) asked the Minister of Health what steps were now being taken to utilize the services of experienced foreign dentists in this country who had been naturalized, what discussions

had taken place with the Dental Board on the subject, and with what result.

Mr. Marquand replied: The Government intend at a convenient opportunity to introduce a Bill which will include proposals for new methods of assessing the qualifications of foreign-trained dentists.

Mr. Awbery asked if the Minister was aware that there was a small number of foreign dentists who had been in this country about ten or twelve years, had become naturalized, and had full qualification, and whether he would take steps as quickly as possible to bring them into the scheme.

The Minister: I am satisfied that within the existing law all that can be done has been done.

Asked by Mr. Barnett Janner (Lab., Leicester, N.W.) when the Bill was likely to be introduced, since it was a very pressing matter, and some of the men who had been previously employed were now prevented from carrying on, Mr. Marquand replied that he could not say when the Bill would be introduced. He understood that the number of dentists was less than 100.

Mr. Sydney Silverman (Lab., Nelson and Colne): In view of the fact that there is a general shortage of dental practitioners, especially in the School Dental Service, does the Minister consider some way out of this unjust dilemma might be found by allocating these men to the School Medical Service, where perhaps they will be more welcome than they are elsewhere?

The Minister: I cannot alone, nor can the Minister of Education, allocate to the School Dental Service persons who are not qualified under the law to practise.

Earl Winterton (C., Horsham) asked if the Minister was aware that many of these dentists were brought to Britain under the Inter-Government Committee for Refugees; many had brilliant qualifications, and that certain professional people here were against foreign dentists practising here, although they were just as efficient.

The Minister gave the assurance that he had the greatest sympathy with these men. (Th., April 26.)

NATIONAL HEALTH SERVICE—RECIPROCAL ARRANGEMENTS

Mr. Keeling (C., Twickenham) asked the Minister of Health whether any arrangements had been made with other countries for British visitors to get false teeth or spectacles free or at half the cost.

Mr. Blenkinsop (Parliamentary Secretary, Ministry of Health), in a written reply, said: No, sir. (M., April 30.)

SALARIES OF SCHOOL DENTAL OFFICERS

Squadron Leader Albert Cooper (Lab., Middlesbrough, W.) asked the Minister of Education if he had yet received the recommendations of the Whitley Council on salaries of school dental officers; and if he will make a statement.

Mr. Tomlinson replied: The Dental Whitley Council does not make its recommendations to me but to the employing authorities. I have, however, seen the recommendations and am glad that agreement has been reached on a salary scale for dentists in local authority employment which will help to remove the present difficulties of the School Dental Service. Local education authorities are already aware from an Administrative Memorandum issued in October, 1949, of which I am sending my hon. friend a copy, that they do not need my approval to the payment of salaries which are in accordance with a nationally negotiated scale to staff employed in the School Health Service. I am sure that local education authorities will lose no time in implementing the recommendations in view of the importance of this service.

Squadron Leader Cooper said in many local authorities the new recommendations were not regarded as being any contribution whatever. Was it not time the Minister did something in this very fundamental problem?

Mr. Tomlinson: I should like to know of any authority who says this makes no contribution. It is what they have been asking for.

Mr. Tomlinson said he expected the School Dental Service would be improved now, because salaries to be paid would be far in excess of what had been paid in the past.

Dr. Somerville Hastings (Lab., Barking): The London County Council have been paying these

rates for many months and still cannot get more than about half the dentists they need.

Mr. Tomlinson: That part of the problem will remain until we get more dentists. (*Th., May 3.*)

PURCHASE TAX ON TOOTHBRUSHES

Speaking in the debate on the second reading of the Finance Bill, Mr. Julian Snow (Lab., Lichfield and Tamworth) raised the question of toothbrushes. He referred to a very interesting article in the DENTAL PRACTITIONER, which had pointed out that oral hygiene had not penetrated sufficiently far into society, that Purchase Tax was very high on toothbrushes, which militated against buying, and that there was a tendency for toothbrushes to be used too long.

Mr. Snow referred to a test carried out in a factory where there were some 3000 men and women, where patients reporting for treatment were asked to bring their toothbrushes. Some 288 were examined. Of that number 47 per cent were in such a state that they should not have been used at all, 23 per cent had some further use, and 30 per cent were satisfactory.

In the Purchase Tax group containing toothbrushes were such items as eye brushes and animal toilet brushes. It was wrong, he thought, to equate toothbrushes with such items. Toothbrushes were an essential item and not luxuries and he hoped the Chancellor would consider the amount of Purchase Tax so as to reduce the retail price. (*T., May 8.*)

SUPPLY OF DENTURES AND SPECTACLES IN SCOTLAND

Commander Galbraith (C., Pollok) asked the Secretary of State for Scotland if he would state the number of persons issued with free spectacles and dentures, respectively, in 1948, 1949, and 1950; and the total cost in each case of these years.

Mr. McNeil, in a written reply, said: The approximate numbers of persons supplied with dentures and spectacles under the National

Health Service in Scotland during these years are as follows. Separate figures of cost relating to these particular periods cannot be ascertained without disproportionate labour.

Period	Persons Supplied with Dentures	Pairs of Spectacles Supplied
July 5 to Dec. 31, 1948	106,000	174,000
1949	386,000	807,000
1950	403,000	1,020,000

(*W., May 9.*)

DENTISTS ACTS—AMENDMENT

Mr. Janner (Lab., Leicester, N.W.) asked the Minister of Health what was the present position with regard to amending the Dentists Acts.

Mr. Marquand, in a written reply, said: Proposals are under consideration and while it is not possible to introduce legislation in the present session it is the Government's intention to do so at an early opportunity. (*Th., May 10.*)

NATIONAL HEALTH SERVICE—DENTAL TECHNICIANS

Lt.-Col. Sir Thomas Moore (C., Ayr) asked the Minister of Health whether he would arrange for an early investigation into the submission of the Incorporated Dental Technicians Association which had been made to him that a saving of several million pounds annually might be achieved in the cost of the dental services provided under the National Health Scheme if greater opportunity were given for direct participation by qualified and approved dental technicians in the provision of dental appliances.

Mr. Marquand, in a written answer, said: The proposals would appear to involve contravention of the provisions of the Dentists Acts designed to safeguard the public. (*F., May 11.*)

THE DENTAL COURIER. The *Dental Courier* is a broadsheet of four pages giving a summary of dental news at home and abroad. It is written in the manner of the newspaper, which gives it an individualistic style of its own. It is published by Cottrell & Co. each month and will be sent on application to the publishers, 15-17 Charlotte Street, London, W.1.

CORRECTION

In the May issue, in the report on the XIIth Congress of the International A.R.P.A., p. 283, col. 2, l. 14 for Thielmann, read Thielemann; p. 284, col. 1, l. 22, for Bessard read Bossard.

ILLUSTRATED HINTS

PLACING A ROLL UNDER THE UPPER LIP

To facilitate the placing of a cotton-wool roll under the upper lip, cut out a V-shaped



piece with scissors. Place the roll with the V-shape around the frenum. A wood point inserted between the upper centrals will help to keep it in position.

N. L. W.



HOLDER FOR BOILING OUT FLASKS

Why not find a use for an old aluminium frying pan, even if it leaks? If the front of the pan is cut away and some holes drilled at the back of the pan, a very useful holder is obtained for "boiling out" flasks. The flasks can be scooped on to the pan so that your hands do not have to come in contact

with the hot flasks and the boiling water can escape through the holes at the rear.

S. W. Jackson.



CRITICS' CORNER

(Under this heading we print letters which discuss points arising from articles which have appeared in the DENTAL PRACTITIONER, together with the comments of the authors. We trust that this section will prove of interest to all our readers and stimulate further discussion.)

The University of Sheffield.
April 18, 1951.

To the Editor.
Dear Sir,

As the PRACTITIONER has espoused the cause of the British Society of Periodontology, what could be more fitting than that it should be used as a forum to clear up some of the misconceptions concerned with the treatment of periodontal diseases.

There are certain statements in the paper by Ronald Grewcock which I feel should not be allowed to pass without comment. Under definitions, we find that balanced occlusion of the natural dentition exists when "each tooth is in contact with its antagonist in such a way as to subject its supporting tissues to stresses which they are best suited to withstand."

The roots of the mandibular incisors are adapted to withstand vertical pressures only, and it is difficult to see how such a stress could be applied by the inclined planes of the lingual surfaces of the maxillary incisors. This leads to the conclusion that in balanced occlusion either the mandibular incisors of the normal mouth are not in contact with the maxillary incisors, or that the contact between the opposing incisors is so slight that no force is exerted even when the teeth are clenched.

Under treatment, we find that "at all events, grinding in the protrusive position should almost entirely be confined to the upper incisors, since if reduction in height of the lowers is effected, contact in centric occlusion will be lost and upward growth of these teeth may follow". In view of the possibility that no

force is exerted on the lower incisors in balanced occlusion, it is odd that they should erupt further if their occlusal surfaces are ground. Furthermore, has this eruption of the mandibular incisors in the *normal* dentition after grinding, ever been shown to occur providing that the teeth are in occlusion in the protrusive, and immediately pre-protrusive positions? In *pathological* conditions of malocclusion it may be noted that after grinding the mandibular incisors so that they are clear of the maxillary incisors, they frequently appear to erupt until in *contact*, though this may merely be due to a release of tension in the supporting tissues, and a sure sign that malocclusion was present. As evidence in favour of this contention, I would suggest that the so-called "recurrent A.U.G." so frequent in the Forces occurred chiefly in mouths where malocclusion in the mandibular incisor region was present, and that the most rapid and permanent treatment, in addition to oral hygiene, was to grind the mandibular incisors until they were out of occlusion in all but the protrusive and pre-protrusive positions.

What basis is there for considering that the exaggerated lateral movements which can be produced on an anatomical articulator should be present, or are ever present, in the natural dentition? In normal mastication it is probable that the maximum traverse of the molar teeth is one-half of their facio-lingual width so that cusps which appear to lock when transferred to an anatomical articulator do not produce malocclusion in the mouth. Moreover, how accurate is the present method of transferring the mandibular movements to an articulator? I would suggest that for the natural dentition it is so inaccurate as to furnish nothing more than a very rough guide.

Trusting that some will be sufficiently interested to take up the cudgels, I remain,

Yours faithfully,

ERIC W. BRADFORD.

[I welcome the opportunity afforded me of replying to the pertinent comments Mr. Bradford has made in regard to my paper on Balanced Occlusion, and I feel that the issues raised may best be dealt with in order of mention.

He has stated that "The roots of the mandibular incisors are adapted to withstand vertical pressures only" a contention which precludes the existence of any

anteroposterior stress which may at times be present, the degree of whose severity determines whether adequate functional stimulation or damage to the paradontium and/or supporting bone shall be the outcome.

The establishment and maintenance of correct occlusal relationship of the mandibular and maxillary teeth are dependent on the complete correlation of all the forces or factors of occlusion, namely, muscle action, proximal contacts, inclined planes and axial inclinations of the teeth, to mention but a few, and any imbalance of one factor will result in upset to one or more of the interdependent forces involved. The forces of occlusion apply equally, of course, to the incisor teeth, in consequence of which the resultant axial stress applied is dependent, not only on the type and direction of the pressure exerted, but on a complete integration of the other forces of occlusion, which, acting jointly, maintain the balance.

I find some difficulty in following the question which asks "has this eruption of the mandibular incisors in the *normal* dentition after grinding, ever been shown to occur providing that the teeth are in occlusion in the protrusive, and immediately pre-protrusive positions?" In my estimation, the definition "*normal* dentition" implies also normality of the paradontium, in which case no grinding of the lower incisors would be considered.

My paper was intended, essentially, to apply to cases showing evidence of paradontal disease and/or aesthetic malformation as shown by bite analysis to be derived from occlusal imbalance. I, apparently, failed to make clear the fact that, in no circumstances is any adjustment effected unless, following careful investigation, it is felt that malocclusion may bear a direct causal relationship in the establishment of one or both of these conditions.

It has, of course, been found that lower incisor teeth, ground free of contact will soon re-establish relationship, as a result of upward growth, but will not erupt further if contact is made in *either* centric or protrusive positions or both.

I feel if Mr. Bradford re-reads the article he will find that no suggestion has been offered that the "exaggerated lateral movements" are natural phenomena of the mandibular excursion. In fact, every attempt was made to emphasize the importance of ensuring as accurate as possible a reproduction of all the natural details, from the impression stage to final selective grinding of cusps on the mounted models, so that a gross error, such as is envisaged, can surely be discounted.

It is reasonable to suppose that no artificial substitute has as yet been made to reproduce exactly any natural body function, and I agree with Mr. Bradford that the so called anatomical articulator, of whatever manufacture, must inevitably fall short of the ideal. No claim, however, has ever been made to the contrary. Awareness of its limitations, and as a consequence repeated counter checking of the analysis obtained by these means, against mouth conditions, ensures an accuracy of working which experience has shown to produce practical results quite incapable of being derived from a method which would "furnish nothing more than a very rough guide".

The title of my paper was carefully worded as a *short* survey and I feel that, had I enlarged more fully on this inadequate description of a large subject, possibly some of these points would have been clarified.

I would thank Mr. Bradford for his interest and for his relevant comments, but perhaps be permitted to entertain the pious hope that, should any, on his invitation, be persuaded to enter the arena, they will do so in a manner less traumatic than with cudgels.—R. J. G. G.]

NATIONAL HEALTH SERVICE

Summary of the Report of an Inquiry held at Nottingham on November 9 and 10, 1950, by the National Health Service Tribunal

Before Sir REGINALD SHARPE, K.C., (Chairman); DAVID C. WEST, Esq., M.B.E., (Deputy Standing Member); and T. H. FLITCROFT, Esq., (Practitioner Member)

On the Representation of Nottingham County and City Executive Council (Complainant), in the case of Hall Elliot (Respondent).

At the hearing the Complainant and Respondent (who is a registered dental practitioner and whose name is included in the Complainant's Dental List) were represented by Counsel.

The allegations against the Respondent related to six of his patients and were to the effect that he:—

- (1) provided unsatisfactory dentures in two cases;
- (2) failed in one case properly to complete scaling and gum treatment;
- (3) wrongly recommended the extraction of teeth in three cases and failed to instruct one of the patients in oral hygiene;
- (4) failed to complete records and carried out inaccurate charting, and
- (5) demanded and accepted a fee of three guineas from one patient in respect of dentures provided under the Service.

The Respondent did not admit the allegations except the inaccurate charting of one tooth.

The Tribunal heard the evidence of the witnesses for the Complainant and the Respondent and examined all relevant documents; the practitioner member examined the mouth of five of the six patients. After considering all the evidence the Tribunal came to the conclusion that:

- (1) the Respondent had provided unsatisfactory dentures in the two cases in question and neglected to complete the treatment necessary to secure the dental fitness of the two patients concerned;
- (2) he had not failed properly to scale the teeth of one patient as the Complainant had not established to the satisfaction of the Tribunal any professional incompetence on the part of the Respondent in this connexion;
- (3) he had failed to employ a proper degree of skill and attention in recommending in the case of three patients the extraction of more teeth than it was necessary to extract, and had failed to instruct one of those patients in oral hygiene;
- (4) he had not failed to complete proper record on the appropriate dental record form in the case of the two patients concerned. But that he had committed breaches of his terms of service in failing properly to complete charts in respect of five patients, although in the case of the sixth patient there was no substance in the fact that purely through inadvertence he had made an error in charting one tooth.
- (5) he had committed a breach of his terms of service in receiving from one patient the sum of three guineas, but he did not receive it with any improper motive.

In reaching its decision on the representation, the Tribunal, in considering conclusion (1) above, took a serious view of the Respondent's failure to provide satisfactory dentures. As regards conclusion (3) the

Tribunal did not consider that the failure to instruct one patient in oral hygiene was, taken by itself, a matter of great seriousness. However, it considered that the Respondent's recommendation for the extraction of more teeth than was necessary, in the case of two out of three patients, was a very serious matter indeed.

As regards conclusion (4) the Tribunal stated that the Respondent, now in his sixty-ninth year and somewhat old-fashioned, had practised in Nottingham with considerable success for over thirty years and had acquired a considerable reputation as an extractor of teeth but he had not taken kindly to the charting required under the Service. However, as there had been no similar allegation against the Respondent covering the period of more than six months between the Tribunal's Report of an earlier hearing concerning the Respondent and the delivery of the Statement of Complaint in the present case, the Tribunal did not consider that it would be right to take too serious a view of the five cases of failure to complete charting.

As regards conclusion (5) the Tribunal considered that in the circumstances in which the Respondent had received the three guineas and in the light of his then understanding of his obligations under the service, it would not be right for it to take a serious view.

After stating its findings the Tribunal recorded its decision as follows:—

"The members of the Tribunal are unanimously of the opinion that its findings against the Respondent (as hereinbefore appearing) disclose a most disquieting state of affairs, which has caused all of them the greatest possible anxiety. One of the members of the Tribunal is firmly of the opinion that the continued inclusion of the Respondent in the Dental List maintained by the Complainant would be prejudicial to the efficiency of the general dental services. The other two members of the Tribunal think otherwise; they have considerable doubt as to whether they may not be wrong and the third member of the Tribunal right, but, as there is this doubt in their minds, they feel that the Respondent is entitled to the benefit of it. The doubt in the minds of the majority of the members of the Tribunal as to whether or not the Respondent's name should now be removed from the Dental List maintained by the Complainant arises not from the facts established by the evidence relating to the Respondent's actions (for the members of the Tribunal are unanimous in the view that the Respondent has been guilty of very serious incompetence) but from the fact that, as hereinbefore appears, almost all the charges now brought against the Respondent relate to events prior to the very serious warning given to the Respondent by the Tribunal in its Report on the previous inquiry. If the present allegations (or if most of them) were to relate to matters subsequent to the Tribunal's previous Report, the members of the Tribunal would now be unanimous in the view that the Respondent ought not to be allowed to continue to practice under the National Health Service. It is only this aspect of the case which saves the Respondent from having his name now removed from the said Dental List. The Tribunal, therefore, after most earnest consideration, has decided, by a majority, that it would not be right to say that the continued inclusion of the Respondent in the said Dental List would be prejudicial to the efficiency of the general dental services.

The Tribunal makes no order as to costs."

The National Health Service Tribunal Report of an Inquiry held at Derby on February 22, 1951.

Before Sir REGINALD SHARPE, K.C. (Chairman), A. SHANKS, Esq., M.C. (Deputy Standing Member), and T. H. FLITCROFT Esq. (Practitioner Member)

On the Representation of the *Derbyshire Executive Council* (Complainant), in the case of *Mr. X* (Dentist) (Respondent).

At the hearing the Complainant was represented by Mr. W. B. Siddons, Solicitor (of the firm of Messrs. Neal, Scora, Siddons & Co. of Sheffield) and the Respondent (who is a registered dental practitioner whose name is included in the Dental List maintained by the Complainant) appeared in person.

The Statement of Complaint alleged that the Respondent's methods of charting and recording were haphazard, inaccurate, and incomplete; also that his general standard of workmanship was entirely unsatisfactory; and further that Part 6 of Form E.C.17 was not consistently handed to each patient accepted by the Respondent for treatment under the National Health Service. The said Statement of Complaint was a highly unsatisfactory document in which no sufficient particulars of the said allegations appeared.

Although the said allegations related to five of the Respondent's patients, only two of them were called as witnesses by the Complainant; the Complainant also called as witnesses the Regional Dental Officer for Derbyshire and the Chairman of the Complainant's Dental Services Committee.

After hearing the evidence called by the Complainant as aforesaid the Tribunal was unanimously of the opinion that the Complainant had entirely failed to make out a prima facie case for saying that the continued inclusion of the Respondent in the Dental List maintained by the Complainant would be prejudicial to the efficiency of the general dental services, and therefore the Tribunal found it unnecessary to call upon the Respondent. The

Tribunal accordingly has no findings of fact to record and need only state that, in the circumstances, it is quite unable to accede to the Representation made to it by the Complainant that the Respondent's name should be removed from the said list. As the Respondent appeared in person the Tribunal makes no order as to costs.

The Tribunal considers it desirable to place on record the fact that, at the conclusion of the hearing, the Respondent informed the Tribunal that he had definitely formed the intention of resigning forthwith from the National Health Service in the event of his name not being removed from the said Dental List by the Tribunal.

REGINALD T. SHARPE,
Chairman.

Dated the 30th March, 1951.

CHARGES FOR TEETH

THE charges for dentures supplied through the National Health Service came into force on Monday, May 21. The following charges now apply:

1. Dentures:—

	£	s.	d.
Full upper and lower	4	5	0
Single dentures:—			
1, 2 or 3 teeth ..	2	0	0
4 to 8 teeth ..	2	5	0
9 teeth or over ..	2	10	0

E.C.N. 72 gives full details of the alterations in procedure. See also Explanatory Note to N.H.S. Regulations, 1951, No. 867.

Abrasive: Some Fundamentals

This article deals with the whole question of cutting teeth by a non-mechanical method, and is written by the inventor of the process. The

ABSTRACTS from Other Journals

faults of cutting with a mechanical bur are carefully analysed and correlated with the general aversion associated by the patient with their use. These are: Pressure, or force of application, Vibration (bone-conducted noises), Heat, and Mechanical Stimulation of nerves in the dentinal tubules. Other disadvantages, as well as these listed, led the author to believe

that some basically different method of cutting teeth must exist, which would eliminate the dangers and unpleasantness associated with the mechanical bur. After long experiment the airbrasive method was perfected and is now sold in the U.S.A. as the Airdent unit. It depends for its action on a fine stream of suitable gas carrying a controlled quantity of small abrasive particles. The gas employed is carbon dioxide and the abrasive is aluminium oxide. The pressure employed is from 30 to 80 lb./sq. in. and is directed through a special handpiece nozzle which is constructed of sintered tungsten carbide and measures $\frac{3}{8}$ in. in length and has an outside diameter of 0.018 in. The apparatus is used with rubber dam, and a suction hood is held near to collect all the tooth debris as well as the spent abrasive material. The airdent unit is controlled by a foot switch and has a

means of regulating pressure, mixture, storage, and the selection of the abrasive material.

The action of the airbrasive method is completely different to that of a bur, and special courses are held before use in practice. The nozzle is held at varying distances and angles from the tooth and the abrasive sprayed on to the tooth. The judgement of the operator must be much keener than with a bur as the instrument does not touch the tooth and the operator cannot feel what is happening to the tooth as he can with a bur. The use of airbrasive eliminates pressure and vibration, heat and mechanical stimulation, and the unpleasantness associated with the mechanical bur. A soft powder is used for scaling and polishing, and removes calculus rapidly with ease.

Airbrasive is not an easy technique, and does not pretend to prepare better cavities than with the conventional methods. What it does do is to prepare cavities without the unpleasant characteristics associated with a rotary bur. It requires considerably less effort to operate and is much less conducive to tension than the mechanical handpiece. Cavities still require to be finished by hand instruments, it does not remove soft caries or bevel margins, and will not polish fillings. Airbrasive techniques are only used on hard substances, hence the fact that it has no effect on the soft tissues of the mouth or on the rubber dam.—BLACK, R. B. (1950), *J. Amer. dent. Ass.*, **41**, 701. (Further reference: Black, R. B. (1945), "Technique for Non-mechanical Preparation of Cavities and Prophylaxis", *Ibid.*, **32**, 955.)

Cancer and the Dentist

The author stresses the importance of early diagnosis of cancer of the mouth by the dentist. Early intra-oral cancer begins as a small ulcerated lesion and the most definite step in the diagnosis is by an immediate biopsy. A technique of taking a biopsy in the surgery is described. The sponge biopsy technique, originated by Gladstone, is simple and easy and gives no discomfort to the patient. A small piece of sponge made of either gelatin or cellulose, about 1 by 1 cm., is held in forceps and pressed on the lesion for 30 seconds and

then rubbed briskly over the entire ulcerated surface. The sponge absorbs particles of tissue, tissue juice, and cells. It is placed in 10 per cent formalin for fixation. No anaesthetic is needed, as there is no pain or bleeding. The grades of tumours, examination of the mouth, and treatment are discussed, and the co-operation of the dentist and physician is stressed.—GOLDMAN, L. B. (1951), *J. Amer. dent. Ass.*, **42**, 371.

Successful Treatment of Unusually Large Areas of Periapical Bone Destruction by Walkhoff's Method

A series of 35 cases is reported. These presented abscessed teeth in varying stages, with or without discharging sinuses, some exhibiting recurrent acute exacerbations, others already loosened by excessive bone destruction. The prognosis for successful treatment was had in each of these cases, even if surgical measures were to be employed. The method here presented gives the practitioner an alternative to surgical intervention, and a means of preserving teeth which would otherwise have to be condemned, although it should be added that in unsuccessful cases surgery still remains as a last resort.

The treatment of abscesses with or without a sinus is essentially the same. In cases of a large refractory abscess, an artificial sinus is made into the buccal sulcus with a bur. After the pulp chamber and coronal third of the root canal have been cleared, a dressing containing W3 (Walkhoff's chlorphenol-camphor-menthol solution) is inserted. At subsequent visits the canal is widened to the apex, until the abscess cavity is readily accessible. To avoid flare-ups and unpleasant reactions due to the antiseptic dressing and mechanical manipulation, the patient is seen frequently at short intervals to remove excessive discharge, and to renew the antiseptic dressing. When the root canal has been reamed sufficiently, and discharge has been controlled, root filling is carried out. This is accomplished by introducing W1 paste (Walkhoff's iodoform paste) into the abscess cavity through the root canal with a *Lentulo*, until the cavity appears to be filled completely.

Large indolent abscesses that do not react, are treated by the use of irritants. These dressings (Asphalin paste on a paper point), when sealed into the root canal, give off formaldehyde vapour, which permeates through the apex and irritates the periapical tissues. The severity of the reaction may be controlled by the depth to which the paper point is inserted.

Of the 35 cases treated, all except 1 showed within eight to eighteen months, clinically and radiologically, that the areas of rarefaction had disappeared, and that fresh bone deposition had taken place.—CASTAGNOLA, L. (1951), *Schweiz. Mschr. Zahnheilk.*, 3, 288.

Successful Bleaching without Secondary Discoloration

It has been found that many teeth that are bleached to remove discoloration due to decomposition of all or part of the pulp, are liable to a further secondary discoloration. This occurs from three months to one year after the initial bleaching. The new colour is invariably a bluish-grey, irrespective of the original colour, and is most intense in the gingival third of the crown. The ordinary technique for bleaching is to remove all fillings, etc., from the crown and treat the open

dental tubules with the agent. The usual substances in use are ether and oxygen, the ether dissolving out the gelatinous material in the tubules and the oxygen bleaching out the staining chemicals. The process is activated by the application of actinic rays from a photo-flood light set about 20 in. from the tooth. After this treatment the tubules are closed with a concentrated solution of chloral hydrate.

The discrepancy in this technique is that the tubules are only closed at the cavity end and are not filled with the material. The tubules are in fact still open to the oral fluids through the enamel. This is based on the researches of Gottlieb and the more recent work on radio-active isotopes by Wainwright and Lemoine. Secondary discoloration may be prevented by sealing the enamel and cementum, and for this purpose Gottlieb's impregnation formula is used, but without the benzene (zinc chloride and potassium ferrocyanide). The technique is based on the theory that secondary discoloration is the result of permeability of enamel and cementum to the oral fluids, and that this permeability is increased by the use of ether as a bleaching agent.—PEARSON, H. H. (1951), *J. Canad. dent. Ass.*, 17, 200.

DENTAL BOARD OF THE UNITED KINGDOM

CHAIRMAN'S ADDRESS AT THE OPENING OF THE SIXTIETH SESSION, MAY 9, 1951

GENTLEMEN,

I regret to have to inform you of the death of Mr. H. A. Robertshaw, one of the two members appointed by the Privy Council in 1921 to represent the practitioners admitted to the Register under the Act of that year on the newly created Board. Mr. Robertshaw remained a member of the Board for only two and a half years, but those were years of cardinal importance in the formation of policy, and during them he was a member of four standing committees. The Chairman, expressing the Board's regret at the loss of Mr. Robertshaw's services in 1924, paid tribute to the broad and well-informed view which he had brought to all matters under discussion.

We have already extended to Sir William Kelsey Fry our warm and sincere congratulations on the honour of Knighthood conferred upon him in the new year, but it would certainly not be your wish that in this first Address after an announcement which has given us all so much pleasure I should fail to express again our appreciation of

the honour done to the profession in the person of one of its most eminent members. A heavy burden of public work has lain for many years upon Sir William's shoulders and he has borne it not only with great distinction but with an unobtrusive charm of manner which has won him warm friendships in Hospital and College, in the University Grants Committee and in Whitehall. We of the Dental Board wish for him many more years of fruitful work, tempered by the leisure he has so richly earned.

This is the last session of the sixth Board and, although the hazards of the Parliamentary time-table have not yet permitted the introduction of a new Dentists Bill, it is at least unlikely that the seventh Board will run its full course. It will therefore be appropriate if, in surveying briefly the five years of this Board's life, I glance back from time to time to mark the road along which we have advanced since the Board itself was brought into being thirty years ago.

Addressing the Board in 1926, when there were just under 14,200 names on the Register, our first Chairman, Sir Francis Acland, stated his belief that it would in the long run be impossible to maintain this figure unless 700 students entered the dental schools in every year. By 1944, however, although the annual entry from the schools into the profession had meanwhile never exceeded 418 and had on an average amounted only to 313, the number of registered dentists had actually risen to 14,438. In that year the Government Actuary informed the Teviot Committee that an annual entry of 800 into the profession would be necessary to produce within twenty years the total of 20,000 which the Committee were confident was not an excessive number of practitioners to meet the needs of the population of this country. The present Board have seen the annual entry from the Schools revive from the nadir of 247 to which it had been reduced in 1946 by the exigencies of war to 489 in 1950, but information recently provided by the Minister of Health does not suggest that there is any prospect of attaining the rate of entry into the profession which the Teviot Committee thought a desirable minimum, without a substantial further increase in the capacity of the dental schools. The Minister disclosed that the intake into the schools, which had risen from 641 to 662 between 1946 and 1948, had by 1950 fallen to 606, but there are still many more applicants for entry into the schools than the schools can take and there is still a very urgent need for dentists.

We may, however, speculate on the size of the Register for which our successors will be responsible if the present capacity of the schools remains unchanged, if we follow the Teviot Committee in accepting the figure of 10 per cent as representing approximately the difference between the intake into the schools and the subsequent entry from the schools into the profession. From the figures given by the Minister, we may expect an average annual entry of about 570 during the next five years and it is not unreasonable to postulate an annual entry of about 540, based on a hypothetical intake of 600 into the schools, during the succeeding five years. Now there were 15,327 names on the Register at the beginning of this year, and during the last twenty years the average number of names removed less the number restored in each year has been 298, so that, if we could assume that this net rate of removal would remain constant, it would be possible to contemplate a Register which in five years' time would contain about 16,650, and in ten years' time about 17,875 names. Unfortunately, this is an assumption which we are unable to make. The maintenance of the Register above the level anticipated by Sir Francis Acland has been almost entirely due to deferred retirement and we have now to reckon with the inevitable result of this in a very substantial increase in the retirement rate. In particular, more than twice as many of the dentists admitted to the Register under the terms of the Dentists Act, 1921, will reach the age of sixty-five in the next ten years as reached that age in the last ten years. It is possible that many of these will continue in active practice beyond that age, but when all foreseeable factors influencing retirement have been taken into account we are faced over the next ten years with an average annual loss to the Register which must exceed 400. Unless, therefore, some special measures are taken to increase the entry into the profession, it is not likely that the number of names on the Register in 1961 will exceed 16,850.

The rate of increase in the size of the profession is slow; that it is increasing at all is to a great extent a result of

measures already taken by the Government to give effect to some of the recommendations made by the Teviot Committee. Another interesting development which also results from these measures is the remarkable rise in the number of applicants for registration upon qualifications obtained in the Commonwealth. The average number of such registrations before the war was between four and five a year but in 1949 there were twenty-four, in 1950 sixty-six, and already in the first four months of this year there have been seventy-two. It is thought that these men and women, most of whom come from Australia, and come immediately after qualification, do not represent a permanent addition to the Register, but are staying in this country for periods varying from six months to two years. They are none the less welcome here. Some of them avail themselves of the opportunity to engage in postgraduate study at the Institute of Dental Surgery or the Royal College of Surgeons of England and, just as contact with them will widen our own horizon, so we hope that they will benefit from their time with us and will learn something that will be of value to them all their lives.

Five years ago, the Register included 327 graduates, 9972 licentiates, 54 practitioners registered under the Act of 1878, 4672 registered under the Act of 1921, and 241 registered on qualifications obtained abroad. To-day there are 646 graduates, 10,390 licentiates, 11 registered under the Act of 1878, 3996 registered under the Act of 1921, and 479 registered on overseas qualifications.

It will be remembered that the Dentists Act of 1921 gave expression to the desire of the profession to contribute towards its own improvement and numerical increase by permitting the newly-established Board to apply their surplus funds to dental education and research and to other public purposes connected with the profession of dentistry. It will also be remembered that by 1946 the Board had spent £227,389 on grants to students, £162,779 on grants in aid of the salaries of teaching staff, £67,036 on capital equipment in schools, £73,773 on research, and £61,092 on dental health education. In all during these years, the Board had spent some £542,741, or 60 per cent of their income, on these and similar public purposes.

The Departmental Committee of 1919 upon whose report the 1921 Act was largely based, made it quite clear that they regarded a scheme of scholarships awarded from the fees paid for registration only as a temporary measure to meet the exceptional position of the moment, and said that they were not prepared to recommend it as a permanent method of recruiting a portion of the dental profession. Similarly, while congratulating the profession on its readiness to give financial aid to dental schools, they recommended that the aid already given by the State should be increased. During their term of office, the present Board have witnessed considerable changes both in the amount of money made available for this special expenditure and in the directions in which it has been applied. The Board's grants to students and their grants to the Medical Research Council had, indeed, already been suspended at the outbreak of the war and, with the assumption by the Government of a greater degree of responsibility for the education and training of dentists and for dental research, have never been resumed. It was not until 1947, however, when it seemed likely that the Board might soon be replaced by a Dental Council without power to apply money to objects more properly the concern of the State, that responsibility for the 43 grants being made by the Board in aid of the salaries of teachers in the dental schools in Great Britain was transferred to the University Grants Committee.

At the same time the Board decided that it should no longer be necessary to subsidize the extension and equipment of dental schools out of funds derived from the profession.

As I shall presently show, a large part of the money saved by the transfer of these responsibilities has been swallowed up in the greatly increased cost of the day-to-day administration of the Dentists Acts. The Board have, however, continued to give their support to suitable causes and certain interesting developments have consequently taken place. The first, in point of time, was the calling of a conference in the spring of 1947 on postgraduate education and the creation of the Dental Postgraduate Bureau which continues to fulfil its very valuable function of collecting and making available information of every kind about dental postgraduate study. The use made of the Bureau grows steadily as its object becomes more widely known and it is in particular increasingly consulted by dentists and dental students overseas. There has also been a progressive increase in the help which the Board have been called on to give to locally organized postgraduate courses.

In the realm of dental health education the last five years have seen a great revival of activity. By 1947 it had become clear that the war had in no way diminished the demand which had previously existed for material supplied by the Board for the encouragement of self-help in preserving healthy teeth, and that this demand was unlikely to be met from any other source. The Board were, however, advised that the cost of effective nationwide propaganda would be quite outside their means. Accordingly in that year an advisory committee was set up to review our depleted stocks and to plan new material but to produce only what was required to meet existing demands. It was nevertheless hoped that this material would serve as a prototype for any larger and more wide-spread campaign that might be launched by some other authority later on. This committee have been continuously active and have by no means come to the end of their task. The material produced has been of a consistently high standard and has included, besides new posters and leaflets, a book of coloured charts for use at the chairside, a filmstrip in colour on the use of the toothbrush, and a set of six frieze pictures. Work is now proceeding on a booklet for teachers on oral hygiene, booklets for children and, what is perhaps their most ambitious undertaking, a film to take the place of five of the films distributed by the Board which, being fifteen years old, have been withdrawn as obsolete. Much of this material is available on loan or is obtainable either without charge or at a price below the cost of production and the committee have now issued an illustrated catalogue for the convenience of schools and other regular customers. The seriously increased cost of printing and paper must unfortunately operate to restrict the committee's programme and it may also become necessary to limit the amount of material which can be distributed free.

An entirely new departure has been the formation of a small committee to survey the whole field of visual aids to the education of dental students and for this purpose to keep in close touch with the teaching schools. In the two years which have passed since they first met, this committee have collected information about nearly a hundred films and have spent much time in appraising their value. The Board have made a grant to enable selected films to be copied and there are at present thirteen films available for loan to dental teaching schools, postgraduate study groups and professional

societies in what it is hoped may become the nucleus of a central library of dental films; the committee have recommended that twenty-seven others should be added. When this has been done, the library will contain films on acrylics, conservative dentistry, maxillo-facial and oral surgery, oral hygiene, orthodontics, parodontal treatment, and prosthetics. There can be no doubt that the committee is carrying out work of the first importance which will be increasingly appreciated by those who are responsible for the education of dental students both before and after qualification.

The financial position of the Board has shown a steady improvement during these five years. This is an unusual state of affairs in the world to-day and you will wish me to express our thanks to the Finance Committee and in particular to Mr. Ballard and Mr. Warner as our Treasurers, who have remained in office throughout the period, for their vigilance in our interests. Mr. Ballard, indeed, has been a Treasurer of the Board for nearly twelve years, during the whole of which time he has given the Board's financial affairs his unremitting attention.

Of the financial significance of the period I would say first in general terms that it consists in the extent of the changes of policy which have occurred. Expenditure on special purposes has decreased from a little over £9000 to a little over £4000 a year; expenditure on the administration of the Dentists Acts has risen from £14,647 to £23,524 a year and income from all sources has risen from £21,579 to £30,316.

I have already explained that the drop in special expenditure is the result of the assumption by the State of responsibility for certain grants in connexion with teaching which were formerly made by the Board, and that the saving on this account has in part been off-set by an increase in special expenditure for other purposes.

The increase in the cost of administering the Acts may very largely be attributed to the general rise in costs or decline in the value of money. It includes increases of 213 per cent in the expenses of meetings and miscellaneous charges, 113 per cent in members' fees, 69 per cent in cost of printing and 60 per cent in general office expenses. Law expenses in 1950 stood at 93 per cent above those in 1946, but this figure cannot provide any reliable indication of trend in expenses which vary greatly from year to year according to the nature and number of the prosecutions and discipline cases undertaken. Increases of this magnitude cannot, of course, produce a total increase of only 60 per cent, and the fact that the cost of administration has not risen to a substantially higher level is due to measures of re-organization and economy as a result of which expenditure on the salaries and wages of the Board's staff and servants, the biggest single item of our administrative expenditure, has only increased during the period by 2 per cent.

The rise of 40 per cent in the Board's income during the period derives mainly from a continuous increase in the number of practitioners who are called upon to pay the annual retention fee and from the withdrawal of war-time concessions to serving officers. In addition a small proportion comes from a rise in receipts from the sale of the Register, on which paper restrictions have, for a time at least, been eased. Against these gains must be set a loss of £262 14s. 9d. on income from investments, but in a period disastrous to trustee investors we have good reason to congratulate ourselves that this loss has not been much heavier.

There is every prospect that the income from the retention fee will maintain a steady rate of increase for some years to come. The same cannot, however, be said

of the Board's income from other sources, and the probable trend in the cost of administration can only be a subject of speculation which is perhaps unlikely in the circumstances of the time to be optimistic. It is, moreover, right that I should mention again a matter to which I referred in the Address from this Chair in November, 1949. It is probable that effect will be given in the fairly near future to the recommendation of the Inter-Departmental Committee that the profession should be made self-governing and the Board replaced by a Dental Council with increased responsibilities and a much larger membership. It is inevitable that this change, so widely desired by the profession, should result in increased costs and it may well be that the new body will find it necessary to make some increase in the annual retention fee, which still remains at £2 2s. at the end of a decade which has seen substantial increases in most other charges.

It is therefore satisfying to note that, owing partly to the recovery of large sums which had been earmarked for educational grants and partly to the realization of profits on investments, the unappropriated balance of the Board's monies has increased by £14,000 during the period under review. In addition full provision has been made for funding the Board's liabilities, both present and contingent, under the terms of their pensions scheme—liabilities which had hitherto been met out of current income. Finally, after prolonged difficulties and delays, the war damage repairs to the Board's premises are now nearly completed and the opportunity has been taken of making certain improvements to the building, with the object of facilitating the work of the Board and their staff in performing their duties, and of carrying out the long overdue redecoration of the building to which they are bound by the terms of their lease. We may therefore feel that, whatever difficulties a new Dental Council may have to face, these will not include the assumption of responsibility for financial liabilities or wasted assets.

Turning now to the exercise by the Board of their disciplinary jurisdiction, it is in every way satisfactory to note a very considerable reduction in the number of cases heard by the Board during the past five years, compared with the number heard in the five years immediately preceding the war, and an even greater reduction in the number of practitioners recommended to the General Medical Council for erasure. The figures are 83 cases heard and 38 erasures recommended between 1934 and 1939; 45 cases heard and 12 erasures recommended in the period 1946-51. I think that we may regard this trend as an indication of an improved standard of conduct rather than of the growth of tolerance or indifference in the profession. Where so small a number is in question, I doubt whether much is to be learnt from consideration of the nature of offences for which the names of practitioners have been erased. The charges on which our colleagues have been summoned to appear before us, however, fall mainly under the heads of convictions in the courts, advertising and canvassing and covering unregistered practice, and do not appear to indicate that any great change has taken place in the nature of professional offences since before the war—or indeed during the thirty years of the Board's existence. There has also been a group of charges relating to attempts to obtain money from National Health Service patients, which may be equated to the charges of false certification on dental letters in earlier days. The number of convictions for unregistered practice has been 59, or exactly one-third of the number in the corresponding pre-war period.

Anyone who surveys the history of the Board as it is recorded in the minutes of their proceedings cannot but observe the many differences between this sixth term of office and those that have gone before. The first four terms, which by chance came to an end on the eve of a world war and happened also to coincide with the tenure of the Chair by Sir Francis Acland, were taken up in the pursuit of those objectives which the sponsors of the 1921 Act—and notably Sir Francis himself—had particularly sought to attain. These were, first, the compulsory registration of everyone entitled to practise the art and science of dentistry, a step which marked a new stage in the development of a separate and responsible profession; secondly, the improvement of the general standard of dental teaching and of the quality and number of recruits to the dental schools through the application of funds obtained from practising dentists; and, thirdly, the evolution and enforcement of an accepted code of professional ethics. The progress made during those eighteen years was remarkable and at their close the task was almost accomplished.

Here as elsewhere advance and development were necessarily slowed down by the war. Nevertheless, the Board which sat during seven years between 1939 and 1946 continued to prepare for the era of reconstruction that must follow. A committee was set up which came to be known as the Clinical Investigation Committee under the Chairmanship of Professor Gilmour and after his death of Mr. Bryan Wood. In their report this body stressed the need for the creation of a dental post-graduate school, now an established institution. Again, this Board, towards the end of their term of office, and in their determination to see that the new generation of dentists was adequately provided for, resolved to sacrifice a very substantial part of their reserves in order to help the schools to appoint teachers to their staffs in timely preparation for the spate of dental students released by demobilization. Fortunately the sacrifice was never made, for within two years the University Grants Committee, strengthened by the addition of dental representatives, had taken over these newly incurred commitments of the Board together with their earlier ones. The major pre-occupation of the Board during these years was, however, the preparation of the evidence which they gave before the Teviot Committee setting out the lines—closely followed by the Committee—on which they believed that the development of the profession should proceed.

The sixth Board took office at the end of the war, at the beginning of a period of great expansion in the accepted functions of central government and shortly after the publication of the Final Report of the Teviot Committee. Having in mind not only the Committee's recommendation that an independent Dental Council should succeed the Board but also Ministerial assurance that a Bill would be introduced into Parliament to bring this change about, this Board have necessarily been concerned with the transfer of responsibility for existing commitments, and have been limited in the scope of their further activity by having to avoid any new commitments which might hamper their successors. However, as I have already indicated, they have not been wholly occupied in this negative task but have, in addition to administering the Dentists Acts, been able to foster some useful developments.

I cannot conclude this last address to the present Board without mentioning the very cordial relations which during the last five years we have enjoyed with the General Medical Council. The Council have undertaken a visitation of dental examinations and are even

now engaged in the consequent revision of their recommendations concerning the dental curriculum. In both these enterprises they have shown a most sympathetic understanding of dental problems and have afforded us every opportunity of taking part in planning and carrying them out. In the long-drawn out process of restoring this building, which we share, we have had further evidence of the goodwill existing between the Council and ourselves.

Nevertheless, however we may view the achievements of the Board in the last five years, and despite the very helpful and friendly relations which exist between the Board and the Council, it has become abundantly clear that the Act of 1921 is out of date. In carrying out the work of the committees we have had to call upon the advice of

more practitioners than that Act permits the profession to elect to the Board. Similarly in revising the curriculum the Council have thought fit to invite representatives of the academic body from the dental teaching schools to join them in their deliberations. The National Health Service Acts have placed upon the dental profession responsibilities which more than ever require that it should be a self-governing profession, responsible for its own standard of education, its own registration and its own discipline. It follows therefore that to discharge these additional responsibilities provision must be made for a "General Dental Council" on which the profession is more widely represented, and whose membership will include those having special experience of the matters with which that Council will be called upon to deal.

SOCIETY NOTES

INSTITUTE OF BRITISH SURGICAL TECHNICIANS (INC.) DENTAL SECTION

A DENTAL BRAINS TRUST will be held under the auspices of the Institute of British Surgical Technicians (Dental Section) on Tuesday, June 19, 1951, at 6.30 p.m. at Caxton Hall, Westminster, S.W.1. The Question Master will be Mr. Charles B. Phillimore, F.I.B.S.T. and the Team will comprise Professor J. Osborne, Mr. Charles Robertson, L.D.S., Mr. E. G. Emmett, F.I.B.S.T., and Mr. J. Boswell, F.I.B.S.T.

Questions will be welcomed and should be sent to the Assistant Secretary, Institute of British Surgical Technicians, 6 Holborn Viaduct, E.C.1.

Admission tickets are obtainable on sending stamped addressed envelope to the Institute or through members of the Institute.

FEDERATION DENTAIRE INTERNATIONALE

39th Annual Session, Brussels, June 9 to 16, 1951

PROVISIONAL PROGRAMME

SATURDAY and Sunday, June 9 and 10, will be more particularly devoted to the Journées Dentaires organized within the Journées Médicales de Bruxelles, who this year are to celebrate their twenty-fifth anniversary. Every effort is being made to make the meeting a memorable one. Delegates and members of the F.D.I. in Brussels before the opening of the Session are invited to attend the Journées Dentaires.

Sunday, June 10.—

9.0 p.m. Informal Reception.

Monday, June 11.—

9.0 a.m. Meeting of the Bureau, followed by meeting of the Bureau with the Board of the Commissions.

10.30 a.m. Formal Opening Meeting.

2.0 p.m. Executive Council.

9.30 p.m. Party in the Town Hall of Brussels.

Tuesday, June 12.—

9.0 a.m. Executive Council.

2.30 p.m. Scientific meeting under the auspices of its Commission of Oral Hygiene.

Social event to be arranged.

Wednesday, June 13.—

9.0 a.m. Executive Council.

2.30 p.m. Meetings of the Commissions. Evening free.

Thursday, June 14.—

9.0 a.m. Executive Council.

2.30 p.m. Scientific meeting under the auspices of its Commission of Public Dental Service.

Evening free.

Friday, June 15.—

Excursion to the Valley of the Meuse. Visit and Reception at Namur. Cruise on the Meuse. Lunch on Board. Reception at Liveson-Meuse.

Saturday, June 16.—

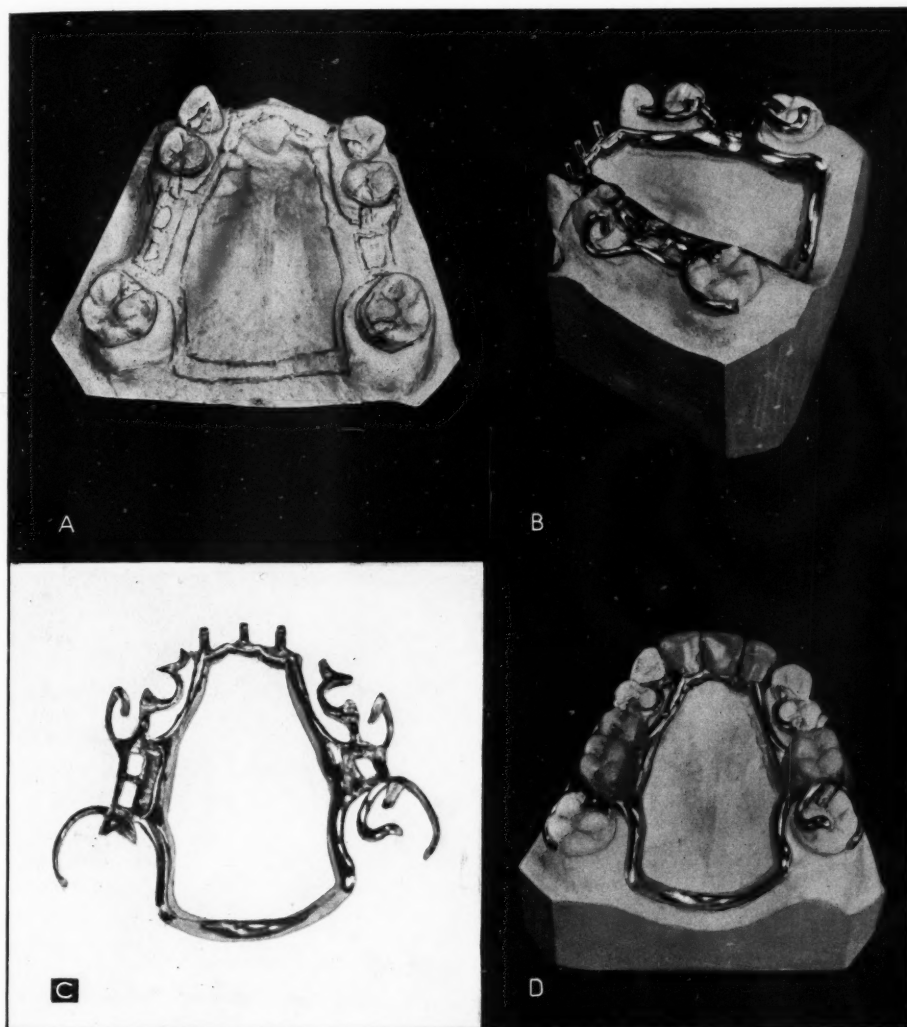
9.0 a.m. Executive Council.

2.0 p.m. Executive Council followed by Meeting of the Bureau.

8.0 p.m. Banquet.

PARTIAL DENTURE CONSTRUCTION PROBLEMS

CHART No. 5



The partial case presented is a common one. The saddles are fairly evenly placed and as there is no "free end" there is no difficulty in constructing a completely tooth-borne denture. Roach type clasps are used and B shows a C-bar clasp obtaining its retention from its free end in the distal undercut of 4. The palatal bar is placed well back and obviates worrying the tongue.

A, Shows model with design of framework; B, The framework on model; C, The framework off model; D, The finished denture.

C. T. YOULES.

June

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THE PROCEEDINGS OF THE BRITISH SOCIETY OF PERIODONTOLOGY

President: S. CRIPPS, L.D.S. R.C.S. Eng.

Hon. Secretary: H. THOMSON, L.D.S. R.F.P.S. Glasg., H.D.D. R.C.S. Edin.
Institute of Dental Surgery, Eastman Dental Hospital, Grays Inn Road, London, W.C.1.
No. 3 June, 1951

THE SECOND ANNUAL DINNER

The second Annual Dinner of the British Society of Periodontology was held on April 9, 1951, at the Cafe Royal, Regent Street, W.1. It was attended by 54 members and guests, the principal of whom were Dr. Cochrane Shanks, Dean of the University College Hospital Medical School, and Hon. Director, X-ray Diagnostic Department,

The toast "The President" was proposed by the Society's Treasurer, Mr. F. E. Hopper. The evening was a very successful one.

THE CLINICAL MEETING

*Held at the Institute of Dental Surgery,
Eastman Dental Hospital, Gray's Inn Road.*

The Second Clinical Meeting of the Society provided an interesting and diverse exhibition



University College Hospital, Professor and Mrs. J. J. Holst of Copenhagen, Dr. and Mrs. F. C. Wilkinson, and Mr. and Mrs. J. Seear.

The toast of "The Guests" was proposed by Mr. Colin Davis, and Dr. Cochrane Shanks and Professor Holst replied. Dr. F. C. Wilkinson proposed the toast "The Society" and the newly elected President, Mr. S. Cripps, replied.

The President announced during the course of the evening that at the Annual General Meeting held that day, Dr. F. C. Wilkinson had been elected an Honorary Member—the second since the Society's formation.

illustrating the current trend of periodontal thoughts. The standard of demonstrations was high, and the Meeting well attended.

1. Clinical Demonstrations:—

"Gingivectomy by Electro-Surgery."

Mr. P. A. Trotter, B.D.S., H.D.D., King's College Hospital, Denmark Hill.

"Gingivectomy using a Special Knife."

Mr. G. C. Blake, M.B., B.S., L.D.S.,
Institute of Dental Surgery, Eastman
Dental Hospital.

"Cases of Periodontal Disease under
Treatment."

Mr. W. G. Cross, M.S., B.D.S., Institute of Dental Surgery, Eastman Dental Hospital.

2. Table Demonstrations:—

"The Traumatic Aetiological Factor in Periodontal Disease."

Professor J. J. Holst, Copenhagen Dental School.

"Gum Stimulation by High Pressure Pulsating Jet."

Mr. J. R. Ritblat, L.D.S., 52, Welbeck Street, W.1.

"The Lateral Shield in the Prevention of Gross Food Impactions."

Mr. Donald Derrick, D.D.S., L.D.S., 140, Park Lane, W.1.

"The Problem of the Functionless Tooth."

Mr. H. Thomson, H.D.D., Institute of Dental Surgery, Eastman Dental Hospital.

"Common Periodontal Crimes."

Mr. J. D. F. Ollivere, B.D.S., H.D.D., University College, Cork.

"A Special Instrument to Measure Tooth Mobility."

Mr. W. G. Cross, M.S., B.D.S., Institute of Dental Surgery, Eastman Dental Hospital.

"Periodontal Disease Due to Faulty Bridge Abutments."

Mr. W. Grossmann, M.D., L.D.S., 79, Harley Street, W.1.

While it would be invidious to single out any particular demonstration for especial consideration it was nevertheless noticeable that the demonstration by Professor J. J. Holst, assisted by his wife, drew considerable attention and was of especial interest to members of the Society.

THE ANNUAL GENERAL MEETING

Held at the Institute of Dental Surgery, Eastman Dental Hospital, Gray's Inn Road.

The second Annual General Meeting of the Society was held on Monday, April 9, at the Institute of Dental Surgery, Eastman Dental Hospital. At this Meeting the name of Dr. F. C. Wilkinson, Dean and Director of Studies of the Institute of Dental Surgery, was proposed for Honorary Membership of the Society

and Dr. Wilkinson was elected an Honorary Member by unanimous vote. The Honorary Secretary, Honorary Treasurer, and Honorary Librarian read their Annual Reports to the Meeting and these were unanimously adopted. From these reports it was shown that the Society had prospered well during the year, having increased its membership to 80. The Society's funds were also satisfactory. The following were elected as officers for the Society in the coming year:—

President: Mr. S. Cripps.

Vice-President: Mr. G. H. Leatherman.

Honorary Secretary: Mr. H. Thomson.

Honorary Treasurer: Mr. F. E. Hopper.

Honorary Librarian: Mr. W. G. Cross.

Full Members: Mr. P. A. Trotter.

Mr. C. de Vere Green.

Associate Member: Mr. D. W. Macfarlane.

The new President, Mr. S. Cripps, was inducted by the retiring President, Mr. C. de Vere Green. Mr. Cripps, after expressing his appreciation at the honour of being elected President, said he would endeavour to carry out his Presidential duties to the very best of his ability.

PREVIEW

No. 11 JULY

The Restoration of Teeth by Crowning
*R. W. Lovell, F.D.S. R.C.S. Eng., H.D.D.
R.C.S. Edin.*

Fractured Incisors *Vera L. Curry, B.D.S.
Dunelm*

Pendulous Tissue in relation to full Denture
Prosthesis *G. G. Tregarthen,
M.D.S. Dunelm, F.D.S. R.C.S.*

Chronic Thrush *H. E. Simpson, B.D.S.*

Illustrated Hints *Parliamentary News*

Critics' Corner *Society Notes*

New Materials and Appliances

Abstracts from other Journals *Book Reviews*

Official Supplement of S.I.M.A. — Dental
Laboratories Section

COLOURED CHART No. 6

OFFICIAL SUPPLEMENT OF THE
**SURGICAL INSTRUMENT MANUFACTURERS'
ASSOCIATION (INC.)**

DENTAL LABORATORIES SECTION

Chairman : E. G. EMMETT, F.I.B.S.T.

Administrative Offices : 6, HOLBORN VIADUCT, LONDON, E.C.1

Telephone: CITY 6031

No. 3

June, 1951

Editorial Committee: MR. C. M. BOOTH; MR. H. J. POTTER, F.I.B.S.T.

EDITORIAL

THE considerable easing up of prosthetic work, noticeable during the last few months, has caused Laboratories to the Profession a great deal of thought, and in many cases some re-organization. Many of the "mushroom" type, as was to be expected, have found themselves to be the first and most badly affected. Having, in the vernacular, "cashed in" on the unparalleled flood of denture work resulting from the introduction of the National Health Service they now find that the type of work they offered to the Profession is unacceptable. To meet the situation they have in almost all cases sought to avert disaster by the same means: price schedules have been slashed far below an economic level and staffs have been reduced. In spite of these panic measures many have found themselves unable to remain in business, and, having folded up, have left behind a trail of unpaid bills and bad work.

To our minds the worst feature of all this is the number of partly trained youngsters thrown out of work, and we ask any of our members who find themselves in need of junior help to think of these lads first; any information needed in this direction can be obtained through our Secretary, who is in close touch with the Trade Unions in this matter.

Our last Editorial concluded on a note regarding our responsibilities as an Association in connexion with the maintenance of high standards both of craftsmanship and quality of materials. Respecting craftsmanship, we exhort our members not only to encourage their employees to attend educational classes,

lectures, demonstrations, and films, but to participate themselves in any local efforts to demonstrate their specialization, or to arrange such facilities.

The standard of materials we are compelled to accept must be our concern, and in this connexion the Association has had deliberations with the Ministry of Health and approached the British Dental Association and the British Standards Institution with a view to collaboration.

Meanwhile, the quality of our "consumable overheads" is not only uncertain and varying, but they continue to soar in price. Did you have to throw away more than a cwt. of inferior and unworkable plaster last month? What of your bills for electricity and gas, for telephone and stationery? These and many other incidentals *must* be considered in costing, to enable us to arrive at a fair and equitable schedule of charges for the correct and complete appliance.

If we wish to give the service expected of us as laboratories, if we wish to remain respected and useful, if we are to remain solvent, we *must* consider these points and many more.

AND NOW! what will the repercussions of the Budget be?

"In order to cure the human body,
it is necessary to have a knowledge of
the whole of things."—HIPPOCRATES.

PERSONALITIES

Your Chairman: **ERIC GEORGE EMMETT, F.I.B.S.T.**

WHEN the members of the main committee re-elected Eric G. Emmett to the position of Chairman at the meeting on March 8, they were not just paying tribute to a "good scout". They knew that they were re-electing an experienced administrator and one who knew his business.

Educated at the William Ellis School at Kentish Town, he started out in the dental world with an apprenticeship of $4\frac{1}{2}$ years with Mr. V. A. F. Greenish, F.D.S., at 51, Welbeck Street, W.1, during which time as an evening pupil at the Borough Polytechnic he acquired the urge to learn, and, in later life, this was to take him back there, this time as an instructor, a post he held for three years.

After a year as an improver in a London West End laboratory to the Profession, he branched out in business for himself and opened his own laboratory, which now has a staff of eight, with Arthur Coode as partner and himself as "chief productive technician". Established now for twenty-six years, in the name of Fordham and Emmett, the laboratory has acquired an enviable reputation for its high standards, especially in metal work.

Beset as we all were by the difficult and competitive times between the two world wars, he was to be even more harassed by the total demolition of his laboratory in an incident which occurred in 1940. For three and a half years he carried on business as a guest in a local pencil factory!

Always interested in improving the status and conditions in the industry, he was an original member of the old Dental Laboratory Owners Association, and has for seven years been an elected member of the main committee of the Dental Laboratories Section of the Surgical Instrument Manufacturers' Association. His pet hobby in the profession—the education of technicians generally—caused him to become a Fellow and founder member of the Dental Section of the Institute of British Surgical Technicians, and he was for two years

its Chairman. He continues to be one of its more energetic committee members.

Realizing the need for raising standards of knowledge and skill within the craft, Mr. Emmett has given considerable time and effort to the subject of education and technical instruction, with gratifying results. His countless activities include representations of S.I.M.A. on the National Joint Council Education Advisory Council, the General Purposes Committee of the N.J.C., the London Regional Advisory Committee, and for I.B.S.T. on the City and Guilds of London Institute. In addition he is co-examiner with Professor J. Osborne for that Institute in Dental Mechanics.

With all these duties E. G. Emmett has made time for outside hobbies and interests, chief of which is gardening at his home at Edgware; in this he is assisted by his wife and previously his son, and they can justifiably feel proud of their efforts. The recent advent of a grand-daughter gives him additional pleasure.

LONDON REGIONAL ONE-DAY CONFERENCE

Tickets for this conference to be held on Saturday, July 7, at the Holborn Restaurant, London, W.C.1, can now be obtained from Mr. R. Foale, 899 Finchley Road, N.W.11. Admission to the lectures is free and is limited to members only; tickets for the dinner at 15s. each may be obtained for members and male guests only.

Programme

- 12.30 p.m. Chairman and Officials meet for conversation and informal luncheon.
- 2.30 p.m. Lecture by Mr. R. Mather on "Costing".
- 3.45–4.0 p.m. Interval.
- 4.0 p.m. Lecture by Mr. C. M. Booth on "Laboratory Organization".
- 5.15 p.m. Meeting ends.
- 6.0 p.m. Dinner.

NEWS FROM HEAD OFFICE

Payment during Sickness.—Members are reminded that during an employee's absence through sickness, National Health contributions should not be deducted from his wages unless the deduction is provided for in the contract of service.

Payment for Holidays.—Inquiries have been received as to the obligations of employers whose staff leave their employment before the annual holiday becomes due, and our advice in such cases is that payment should be made in lieu of the holiday in proportion to the time worked since the last annual holiday, i.e., if the employee's services are dispensed with or withdrawn after 9 months, he should receive 9 days' pay in lieu of the holiday. The next employer will pay on the same basis for the remaining period worked before the holiday becomes due, thus making up the amount which the employee will receive to the full 12 days' holiday pay for the year.

Call-up of "Z" Reservist Classes.—In reply to inquiries as to whether any temporary postponement of the date of call-up of "Z" Reservists can be arranged to avoid loss of production due to the absence of several employees at the same time, the Ministry of Labour and National Service informs us that there is no provision for an employer to appeal against the recall on the grounds that an employee cannot easily be spared from important work, but the problem of the simultaneous absence of a number of employees was anticipated and consequently the War Office are prepared to do what they can in cases of this sort. Members who may find themselves in difficulties owing to the date of an employee's call-up are advised to send full details to Head Office so that representations can be made to the War Office on their behalf.

Proposed Branch for Leicester and District.—Requests have been made for the formation of a branch in this area and negotiations have already commenced. Any member within a 50-mile radius of Leicester who is prepared to assist in the formation of a branch is requested to communicate with the Head Office with a view to calling a preliminary meeting.

Stamp Duty on Apprenticeship Indentures.—Apprenticeship indentures are no longer liable to stamp duty, but a charge of 2s. 6d. is made by the National Joint Council for the registration of each indenture. This amount should be forwarded to the Registrar when the indentures are submitted for registration.

Extract from the British Dental Journal (Supplement, May 1, 1951).—"The Council were approached by the Dental Laboratories Section of S.I.M.A. with a proposal for closer co-operation with the object of securing the maintenance of a high standard of work among dental laboratories. One of the principal suggestions put forward by the D. L. Section was that the Association should agree to a Fair List of prices for dental laboratories and should recommend its members to deal only with those laboratories which observe the Fair List. Correspondence with the Dental Laboratories Section on this matter is still proceeding."

Mr. Gillard Bishop (Chairman of the Remuneration Committee), Mr. A. H. Condry, and Mr. H. D. Barry, who was the Secretary of the N.J.C. for the Craft of Dental Technicians, are to confer with the representatives of S.I.M.A. on this matter.

Membership.—Endeavours are constantly made to expand our membership, and if members can forward the names and addresses of laboratories who might be approached, Mr. W. L. Thomas, of 8 Perry Vale, Forest Hill, S.E.23, will take the necessary action.

City and Guilds Examination, 1951.—It is interesting to note that there has been a considerable increase in the number of entrants for the examination in Dental Mechanics, the figures being: Intermediate, 372; Final, 53.

Changes of Address.—The following members can be located at their new addresses:—
Forest Dental Laboratories, Hill Street,
Lydney, Glos.

E. Benn, 11, Gundulph Road, Bromley, Kent.
Maidstone Dental Laboratory, 15, St. Luke's
Avenue, Maidstone.

Acrylline Products Ltd., Windsor Lane,
Windsor Road, Penarth, Glam.

NEWS FROM THE BRANCHES

North-Eastern Branch.—The quarterly meeting of the branch was held at York on Saturday, April 14, 1951.

The meeting was presided over by Mr. H. Featherstone and was attended by 22 members who had travelled to it on a cold and snowy day from places as far apart as Newcastle, Hull, Sheffield, Leeds, Bradford, Huddersfield, Barnsley, and Harrogate.

Discussion developed on the two subjects considered most important, and that taken first was the levy for advertising and general education. Whilst members expressed themselves as being in full agreement about advertising, they felt that they were hardly in a position to uphold the second clause. This, it was felt, might be practicable for a Branch within a radius of up to 30-40 miles of its Headquarters, but as in the case of the North-Eastern Branch, with a radius of 85-100 miles, there is some difficulty and it should not be expected that members would strongly support a project of which they are unable to take advantage.

Secondly, considerable controversy was aroused by the stipulation that Branches are expected to be self-supporting. Since the annual contribution from N.E. Branch to S.I.M.A. funds is considerable, members feel that to ask for a grant towards Branch expenses is justified. After further discussion, it was decided to refer the matter to the Main Committee.

Applications were then dealt with in detail, and seven new applicants were recommended to be brought before the Main Committee.

The London representative gave his report, and the time left was all too short for an excellent talk by Mr. W. W. Browning, of Hull, on Laboratory Management. Nevertheless, the members greatly appreciated the talk.

North-Western Branch.—Mr. Whittaker, of Windermere, has agreed to arrange for the summer meeting of the Branch at Windermere. On this occasion members will be accompanied by their wives and arrangements will include lunch, tea, and a trip on the lake.

Birmingham Branch.—Mr. Peter Davies has been elected Branch Representative to the Main Committee, London.

South Wales and Monmouthshire.—The Branch held a very successful and well-attended Annual Dinner on Thursday, April 19, at the Royal Hotel, Cardiff.

The guest speaker was Mr. J. R. K. Russell, South Wales Chairman of the National Union of Manufacturers. Mr. Russell gave a most informative speech and stressed the need for close collaboration and the building up of maximum membership during these days of stress, when, to use his words, "the counting of heads carried so much weight in modern negotiations".

In order to strengthen our position, Mr. Russell invited the appointment of a local member to act on the South Wales Committee of the N.U.M.

West of Scotland Branch.—The Branch has again been honoured by having three of its members appointed local examiners for the City and Guilds of London Institute Examinations, making in all a total of five examiners and covering an area from the north of Scotland down to the Midlands.

No lectures or demonstrations are being held during the summer season, but the Social Committee has arranged a number of outings. These are proving most successful, being a splendid way of meeting colleagues and their families. One very pleasant outing was held on May 8; this was a visit to Prestwick Airport, where the company were conducted over the Airport, including the Control Tower. The tour was followed by high tea in the Airport Restaurant and the company were then taken home by private bus.

Croydon Branch.—The Fourth Annual Film Show to be held under the auspices of the Croydon Branch took place at Norbury Public Library on April 27 before a full house of Dentists, Technicians, and lady assistants. The company included the Chairman of the Association, Mr. E. G. Emmett, Mr. Knowles, Secretary of the Metropolitan Branch of the

B.D.A., and Mr. Warrington, of the Goldsmiths and Silversmiths Association. Many of the assembled company had travelled long distances to be present, one from as far as Liverpool, and the interval between assembly and the showing of the films was well used in the cementing of old friendships and the formation of new ones. This general "get together" was aided by photographs of past meetings in London and Croydon, which were on display.

The Chairman of Croydon Branch, Mr. W. G. Chambers, opened the meeting and introduced the two lecturers, Mr. Chas. Phillimore, F.I.B.S.T., the newly elected Chairman of the Dental Education Committee of the Institute of British Surgical Technicians in succession to the late Andrew Fitzpatrick, and Mr. Aspin, Instructor in Dental Technology at Birmingham University.

Mr. Phillimore commenced his lecture by an explanation of the first two films. These were made at the Queen Victoria Hospital, East Grinstead, and depicted most graphically the use of cap splints in maxillo-facial surgery. He emphasized the important part played by the technician as a member of the team of operators in this work, and how, by exercising



CHAS. P. PHILLIMORE

skill and care, the work of the surgeon could be aided, and how necessary it was that the appliances used could be fitted at speed without adjustment. The first film, preceded by a short reel showing the Ethical Code of the S.I.M.A., was a case of severe facial injuries and fracture of the maxilla and showed the patient at reception, and the various stages of treatment carried out by the use of cap splints, right through to the successful completion. Mr. Phillimore then answered questions about

this film and proceeded to the second—a case of a fractured mandible left untreated for 36 days. Like the preceding film, it depicted the stages of treatment, aided by cap splints, following on to a successful end, rewarding the efforts of both technician and surgeon. Both films were in colour and showed very clearly the importance of a well-fitting appliance in this work, which is surely one of the most



M. E. ASPIN

rewarding aspects of our craft. The lecturer greatly increased the appreciation of both films by a well-timed commentary and by his clear answers to questions.

The following two films were explained by Mr. Aspin, his first being an instructional one, used for teaching students the basic principles of the Tooth Surveyor used in designing all types of clasps for the retention of dental appliances. This was very simply and graphically described and gained thereby in its clarity and value as an aid to instruction. His second film illustrated vacuum investing of wax patterns in preparation for casting, and showed stage by stage the construction of an inlay from reception of the matrix, the construction of the hydraulic pump used, the preparation of the matrix, and the evacuation of the air from the investment. The finished inlay was of exceptional standard and the film ended by showing how perfectly it fitted in the mouth. Mr. Aspin, obviously a master of his subject, also gave a very helpful commentary during the showing of his films and answered questions after each of them.

Mr. Chambers thanked both the lecturers for such an enjoyable and instructive evening, and then called on Mr. Emmett, who said a few words on behalf of the guests.

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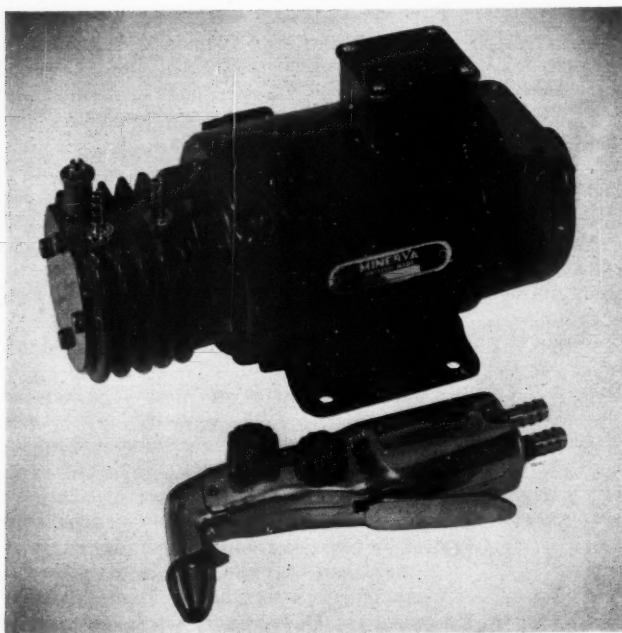
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Unit. Used as a Compressor, together with a blowpipe (or hand torch such as the Flamemaster*) I consider it one of the most valuable and efficient installations in my laboratory.

This little assembly is beautifully constructed, quiet in operation, and requires but little space, the overall dimensions being $10 \times 4\frac{3}{4} \times 5\frac{3}{4}$ in. high; its total weight is 16 lb., and

instead of the output valve, and in this way can be used as a component for vacuum investing apparatus; the ultimate vacuum obtainable is ample for this purpose.

* The Flamemaster Hand Torch is a cleverly designed and neat precision instrument, light in weight, and comfortable to handle. It is supplied with two multi-hole jets, No. 1 being designed for exceedingly fine soldering operations, and No. 2 for melting of precious metals, including high-temperature white gold alloys.

S.I.M.A. (DENTAL LABORATORIES SECTION) DIARY

North-Western Branch (Secretary: Mr. W. Mayall, 15, King St., Accrington).—August 26, Outing to Lake Windermere.

North-Eastern Branch (Secretary: Mr. F. Pearson, 100, Morley St., Bradford).—July 14, 2 p.m. at the White Swan Hotel, York.

London Regional Branch (Secretary: Mr. R. Foale, F.I.B.S.T., 899, Finchley Rd., N.W.11).—June 21, 6, Holborn Viaduct, E.C.1., Quarterly Meeting; July 7, Holborn Restaurant, One-Day Conference.

Croydon Branch (Secretary: Mr. H. J. Nowers,

F.I.B.S.T., 86 Croydon Rd., Croydon).—June 29, at the Six Bells, Handcroft Rd., Croydon.

South Wales and Monmouthshire Branch (Secretary: Mr. R. Mather, F.I.B.S.T., 16, Clodien Ave., Cardiff).—June 7 and July 5, at the Royal Hotel, Cardiff.

East of Scotland Branch (Secretary: Mr. W. Gordon Seaton, 20, Alva St., Edinburgh, 2).—A film show to be held in June.

West of Scotland Branch (Secretary: Mr. J. S. Fountain, F.I.B.S.T., 147, Bath St., Glasgow, C.2).—In June at the Bath Hotel, Glasgow.